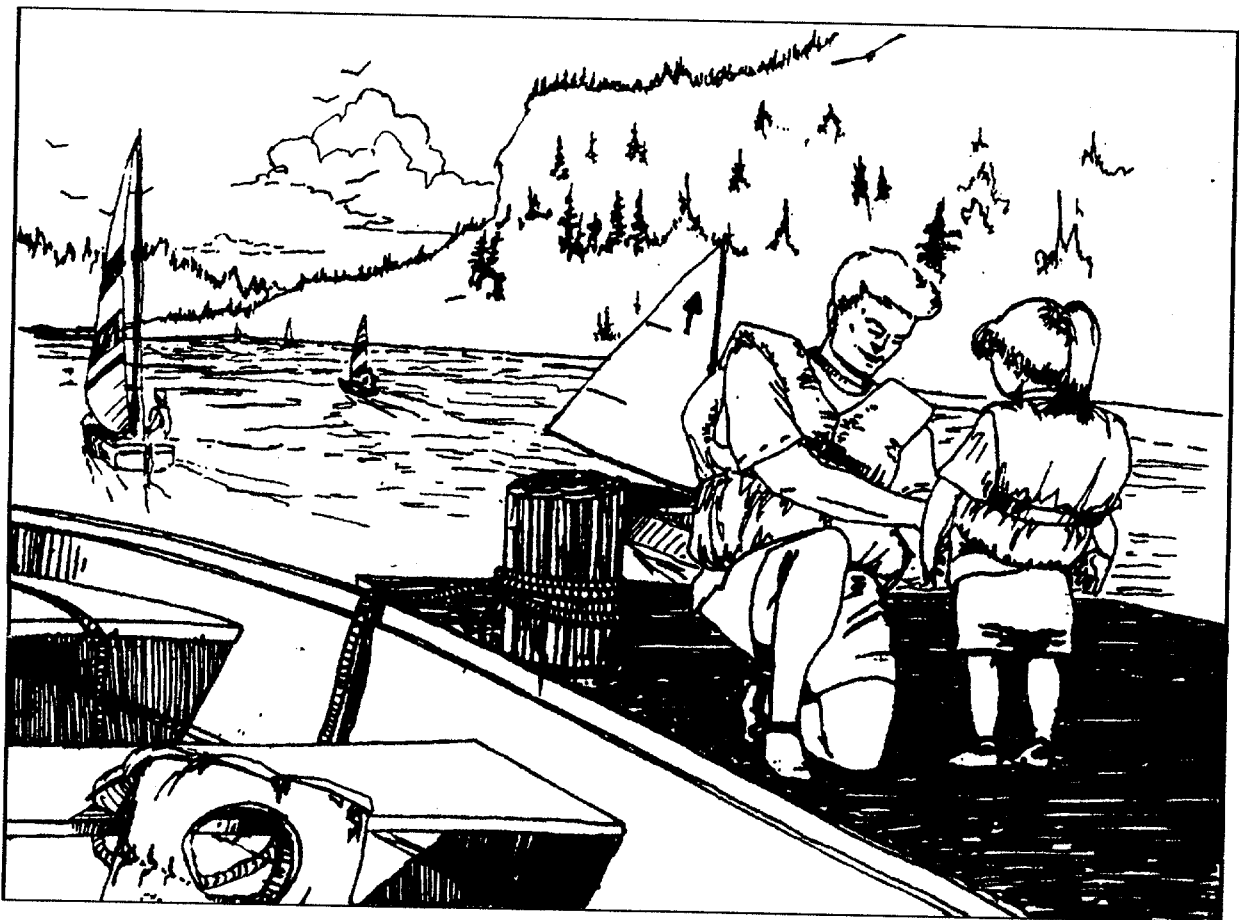




## BOATING STATISTICS 1993



**TEACH SAFE BOATING BY EXAMPLE**

SEPTEMBER 1994  
COMDTPUB P16754.7



U.S. Department  
of Transportation  
**United States  
Coast Guard**



Commandant (G-NAB)  
United States Coast Guard

MAILING ADDRESS:  
Washington, DC 20593-0001  
(202) 267-0955

COMDTPUB P16754.7

COMMANDANT PUBLICATION P16754.7

AUG 22 1994

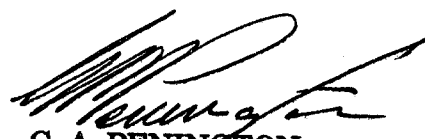
## FOREWORD

Under the authority of Title 46, United States Code, the Chief, Office of Navigation Safety and Waterway Services has been delegated the responsibility to collect, analyze, and annually publish statistical information obtained from recreational boat numbering and casualty reporting systems. Within this Office, the Auxiliary, Boating, and Consumer Affairs Division has Recreational Boating Safety Program responsibility.

Boating Statistics 1993, the 35th annual report, contains statistics on recreational boating accidents, State and Coast Guard boat numbering activities, and Coast Guard Auxiliary programs. The report also contains summaries of all regulations issued by the Coast Guard under the authority of Title 46, United States Code, and other safety program information.

This report is a result of the coordinated effort of the Coast Guard and those jurisdictions which have Federally approved boat numbering systems. These include the District of Columbia, Puerto Rico, Guam, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and all States except Alaska.

This publication is distributed to Coast Guard units, Coast Guard Auxiliary flotillas, and to other organizations and individuals on the mailing list. The publication may be copied freely in the interest of boating safety. For questions and suggestions regarding content, availability of the current or back issues, and additions to the mailing list, use the address or telephone number at the top of this page.

  
G. A. PENINGTON  
Rear Admiral, U.S. Coast Guard  
Chief, Office of Navigation  
Safety and Waterway Services

DISTRIBUTION - SDL No. 132

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B		2	*	1	1	2		2		2		2		5	5		1	2								2
C	2	2		1	2				1		1	1	1			1		1		1			1			3
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14 - 25	17 - 25		

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## THE BOATING SAFETY HOTLINE

When you need:

- \* Information on boating safety recalls.
- \* To report possible defects in boats.
- \* To comment on U.S.C.G. boarding procedures.
- \* Answers to boating safety questions.
- \* Boating safety literature.

**Call Toll Free for Information: (800) 368-5647.**

## YOU ARE RESPONSIBLE FOR REPORTING A BOATING ACCIDENT

You just ran your beautiful boat into a submerged rock and put a hole in your hull. No one is hurt, but you estimate boat repairs will cost about \$800. Must you file an accident report? As the operator of the vessel, you are required by law to file a formal, written report of the accident. If the operator is physically unable to complete the form, the owner of the vessel must submit the form. A copy of the form you can use is on pages 3-5 in this publication.

Remember, you are required to fill out and send in a boating accident report when:

- (1) A life is lost due to the accident.
- (2) Someone is injured and requires medical treatment beyond first aid.
- (3) There is complete loss of the vessel or damage to the vessel and other property exceeding \$500 (many States have set a limit less than \$500 - contact the local boating authority to determine the amount).
- (4) Any person on board a vessel disappears (under circumstances indicating death or injury).

Reports must be filed within:

- (1) 48 hours of the occurrence or if a person dies within one day (24 hours of the accident).
- (2) 48 hours if a person is injured and medical treatment beyond first aid is required.
- (3) 10 days if there is only damage to the vessel and/or property.

All serious injuries and loss of life must be reported to local authorities immediately! If you need assistance in locating where to call within each State or territory for reporting an accident, call:

**(800) 368-5647.**

## **INTRODUCTION**

### **SCOPE**

This report contains statistics on numbered boats, recreational boating accidents, and information on boating safety activities for calendar year 1993. States and jurisdictions with Federally approved boat numbering systems file official reports which the Coast Guard uses to provide the boat numbering statistics. Coast Guard numbering records cover the State of Alaska, which does not have a numbering system. Data for the accident statistics come from three sources: (1) copies of Boating Accident Reports and investigations forwarded to the Coast Guard by jurisdictions with an approved numbering and casualty reporting system; (2) reports submitted directly to the Coast Guard in Alaska; and (3) reports of Coast Guard investigations of fatal boating accidents that occurred on waters under Federal jurisdiction. Recreational Boating Accident Investigation Reports are used if submitted to the Coast Guard and are relied on as much as possible to provide accurate accident data. In the absence of investigations, information is collected from the accident reports filed by boat operators.

### **ACCIDENT REPORTING**

Current regulations (33 CFR 173-4) require the operator of any vessel, numbered or used for recreational purposes to file a Boating Accident Report (BAR) if the vessel is involved in an accident that results in:

1. Loss of life; or
2. Personal injury which requires medical treatment beyond first aid; or
3. Damage to the vessel and other property exceeding \$500; or
4. Complete loss of the vessel.

Boat operators are required to report their accidents to authorities in the State where the accident occurred, or directly to the Coast Guard if the accident occurred in Alaska. States with approved numbering systems furnish the Coast Guard with copies of Boating Accident Reports. The minimum reporting requirements are set by Federal regulation, but States are allowed to have stricter requirements. The statistics in this publication cover only accidents meeting the Federal minimum reporting requirements listed above.

The statistics in this publication cover boating accidents reported on waters of joint Federal and State jurisdiction and exclusive State jurisdiction. The statistics include any reports received of accidents on waters under exclusive jurisdiction of Alaska, even though the reports are not required.

Most States use Boating Accident Report forms that are similar to the Coast Guard form. **A copy of the Coast Guard BAR form is on the following three pages (3-5).** Microfiche of Boating Accident Reports and investigation reports are filed at Coast Guard Headquarters for statistical purposes only.

The accidents covered in this report occurred during calendar year 1993. Only those accidents which were reported to Coast Guard Headquarters by April 15, 1994 are included in the statistics.

## **CASES EXCLUDED FROM THE REPORT**

This report does not include the following:

1. Accidents involving only slight injury which did not require medical treatment beyond first aid;
2. Accidents involving property damage of not more than \$500;
3. Accidents which were not caused or contributed to by a vessel, its equipment, or its appendages; and
4. Accidents in which the boat was used solely as a platform for other activities, such as swimming or skin diving. Such cases are not included because the victims freely left the safety of their boat. However, if a victim is struck by their boat or another one, the accident is included because it involves a boat as the instrument striking the person.

## **USE OF THE STATISTICS**

Users of the statistics in this report need to be aware of the following facts that may affect results of analyses of non-fatal accidents:

1. The Boating Accident Reporting System does not include every accident involving a recreational vessel. Some accidents are not in the system because they are not required to be reported. Many more accidents are not reported because of ignorance of the law and difficulty in enforcing the law. We believe that only a small fraction of all non-fatal boating accidents occurring in the United States are reported to the Coast Guard, State or local law enforcement agencies. However, we believe that nearly all fatal recreational boating accidents are included in these statistics. To improve non-fatal boating accident data, the Marine Index Bureau Foundation has developed the Recreational Boating Accident Register (R-BAR) under the national nonprofit grant program. The purpose of R-BAR is to collect boating accident data from insurers of recreational boats. In the future, this data will be used to provide a better understanding on the nature, frequency, and types of non-fatal recreational boating accidents.



DEPARTMENT OF  
TRANSPORTATION  
U.S. COAST GUARD  
CG-3865 (Rev. 1/88)

## BOATING ACCIDENT REPORT

FORM APPROVED  
OMB NO. 2115-0010

The operator/owner of a vessel used for recreational purposes is required to file a report in writing whenever an accident results in: loss of life or disappearance from a vessel; an injury which requires medical treatment beyond first aid; or property damage in excess of \$200 or complete loss of the vessel. Reports in death and injury cases must be submitted within 48 hours. Reports in other cases must be submitted within 10 days. Reports must be submitted to the reporting authority in the State where the accident occurred. This form is provided to assist the operator in filing the required written report.

**COMPLETE ALL BLOCKS.** (indicate those not applicable by "NA")

NAME AND ADDRESS OF OPERATOR	AGE OF OPERATOR DATE OF BIRTH	OPERATOR'S EXPERIENCE This type of boat <input type="checkbox"/> Under 20 Hours <input type="checkbox"/> 20 to 100 Hours <input type="checkbox"/> 100 to 500 Hours <input type="checkbox"/> Over 500 Hours Other Boat Operating Exp. <input type="checkbox"/> Under 20 Hours <input type="checkbox"/> 20 to 100 Hours <input type="checkbox"/> 100 to 500 Hours <input type="checkbox"/> Over 500 Hours
OPERATOR TELEPHONE NUMBER	OWNER TELEPHONE NO.	
NAME AND ADDRESS OF OWNER	RENTED BOAT? <input type="checkbox"/> YES <input type="checkbox"/> NO	NUMBER OF PERSONS ON BOARD
		FORMAL INSTRUCTION IN BOATING SAFETY <input type="checkbox"/> None <input type="checkbox"/> State <input type="checkbox"/> U.S. Power Squadrons <input type="checkbox"/> USCG Auxiliary <input type="checkbox"/> American Red Cross <input type="checkbox"/> Other (Specify) _____

### VESSEL NO. 1 (this vessel)

BOAT REGISTR. NO.	BOAT NAME	BOAT MAKE	BOAT MODEL	MFR. HULL IDENTIFICATION NO.
TYPE OF BOAT <input type="checkbox"/> Open Motorboat <input type="checkbox"/> Cabin Motorboat <input type="checkbox"/> Auxiliary Sail <input type="checkbox"/> Sail (only) <input type="checkbox"/> Rowboat <input type="checkbox"/> Canoe <input type="checkbox"/> Other (Specify)	HULL MATERIAL <input type="checkbox"/> Wood <input type="checkbox"/> Aluminum <input type="checkbox"/> Steel <input type="checkbox"/> Fiberglass <input type="checkbox"/> Rubber/vinyl <input type="checkbox"/> Other (Specify)	ENGINE <input type="checkbox"/> Outboard <input type="checkbox"/> Inboard gasoline <input type="checkbox"/> Inboard diesel <input type="checkbox"/> Inboard-outdrive <input type="checkbox"/> Jet <input type="checkbox"/> Other (Specify)	PROPULSION No. of engines _____ Horsepower (total) _____ Type of fuel _____ Has boat had a Safety Examination? <input type="checkbox"/> YES <input type="checkbox"/> NO For current year? <input type="checkbox"/> YES <input type="checkbox"/> NO Year _____ Indicate whether <input type="checkbox"/> USCG Auxiliary Courtesy Marine Exam. <input type="checkbox"/> State/local examination <input type="checkbox"/> Other	CONSTRUCTION Length _____ Year built (boat) _____

### ACCIDENT DATA

DATE OF ACCIDENT	TIME am pm	NAME OF BODY OF WATER	LOCATION (Give location precisely) Lat: _____ Long: _____
STATE	NEAREST CITY OR TOWN		COUNTY
WEATHER <input type="checkbox"/> Clear <input type="checkbox"/> Rain <input type="checkbox"/> Cloudy <input type="checkbox"/> Snow <input type="checkbox"/> Fog <input type="checkbox"/> Hazy	WATER CONDITIONS <input type="checkbox"/> Calm (waves less than 6") <input type="checkbox"/> Choppy (waves 6" to 2') <input type="checkbox"/> Rough (waves 2' to 6') <input type="checkbox"/> Very Rough (greater than 6') <input type="checkbox"/> Strong Current	TEMPERATURE (Estimate) Air _____°F Water _____°F	WIND <input type="checkbox"/> None <input type="checkbox"/> Light (0 - 6 mph) <input type="checkbox"/> Moderate (7 - 14 mph) <input type="checkbox"/> Strong (15 - 25 mph) <input type="checkbox"/> Storm (Over 25 mph)
VISIBILITY Day _____ Night _____ <input type="checkbox"/> Good <input type="checkbox"/> <input type="checkbox"/> Fair <input type="checkbox"/> <input type="checkbox"/> Poor <input type="checkbox"/>			

OPERATION AT TIME OF ACCIDENT (Check all applicable) <input type="checkbox"/> Commercial Activity <input type="checkbox"/> Cruising <input type="checkbox"/> Maneuvering <input type="checkbox"/> Approaching Dock <input type="checkbox"/> Leaving Dock <input type="checkbox"/> Water Skiing <input type="checkbox"/> Racing <input type="checkbox"/> Towing <input type="checkbox"/> Other (Specify)	TYPE OF ACCIDENT <input type="checkbox"/> Drifting <input type="checkbox"/> At Anchor <input type="checkbox"/> Tied to Dock <input type="checkbox"/> Fueling <input type="checkbox"/> Fishing <input type="checkbox"/> Hunting <input type="checkbox"/> Skin Diving/ Swimming <input type="checkbox"/> Being Towed <input type="checkbox"/> Grounding <input type="checkbox"/> Capsizing <input type="checkbox"/> Flooding <input type="checkbox"/> Sinking <input type="checkbox"/> Fire or Explosion (Fuel) <input type="checkbox"/> Fire or Explosion (Other than fuel) <input type="checkbox"/> Fallen Skier <input type="checkbox"/> Collision with Vessel <input type="checkbox"/> Collision with Fixed Object <input type="checkbox"/> Collision with Floating Object <input type="checkbox"/> Falls Overboard <input type="checkbox"/> Falls in Boat <input type="checkbox"/> Hit By Boat or Propeller <input type="checkbox"/> Other (Specify)	WHAT IN YOUR OPINION CONTRIBUTED TO THE ACCIDENT? (Check all applicable) <input type="checkbox"/> Weather <input type="checkbox"/> Excessive Speed <input type="checkbox"/> No Proper Lookout <input type="checkbox"/> Restricted Vision <input type="checkbox"/> Overloading <input type="checkbox"/> Improper Loading <input type="checkbox"/> Hazardous Waters <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Alcohol use <input type="checkbox"/> Drug Use <input type="checkbox"/> Fault of Hull <input type="checkbox"/> Fault of Machinery <input type="checkbox"/> Fault of Equipment <input type="checkbox"/> Operator Inexperience <input type="checkbox"/> Operator Inattention
---	--	---

### PERSONAL FLOTATION DEVICES (PFD'S)

Was the boat adequately equipped with COAST GUARD APPROVED FLOTATION DEVICES? <input type="checkbox"/> Yes <input type="checkbox"/> No	Were they accessible? <input type="checkbox"/> Yes <input type="checkbox"/> No	Were they serviceable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Were they used by survivors? <input type="checkbox"/> Yes <input type="checkbox"/> No
What Type? <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, <input type="checkbox"/> V (specify) _____			
Were PFD's properly Used? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Adjusted? <input type="checkbox"/> Yes <input type="checkbox"/> No,			
Sized? <input type="checkbox"/> Yes <input type="checkbox"/> No			

Include any comments on PFD's under ACCIDENT DESCRIPTION on other side of form

### PROPERTY DAMAGE

Estimated amount  
This Boat \$  
Other Boat \$

### FIRE EXTINGUISHERS

Were they used? (If yes, list  
Type(s) and number used.)  
☐ Yes ☐ No ☐ NA  
Types:

### DESCRIBE PROPERTY DAMAGE

NAME AND ADDRESS OF OWNER OF DAMAGED  
PROPERTY

If more than 3 fatalities and/or injuries, attach additional form(s).

### DECEASED

NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?
NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?
NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?

### INJURED

NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No

### ACCIDENT DESCRIPTION

DESCRIBE WHAT HAPPENED (Sequence of events. Include Failure of Equipment. If diagram is needed attach separately. Continue on additional sheets if necessary. Include any information regarding the involvement of alcohol and/or drugs in causing or contributing to the accident. Include any descriptive information about the use of PFD's.)

### VESSEL NO. 2 (if more than 2 vessels, attach additional form(s).

Name of Operator	Address	Boat Number
Telephone Number		Boat Name
Name of Owner	Address	

### WITNESSES

Name	Address	Telephone Number
Name	Address	Telephone Number
Name	Address	Telephone Number

### PERSON COMPLETING REPORT

SIGNATURE	Address	Telephone Number
QUALIFICATION (Check One) <input type="checkbox"/> Operator <input type="checkbox"/> Owner <input type="checkbox"/> Investigator <input type="checkbox"/> Other		Date Submitted

(do not use) - FOR REPORTING AUTHORITY REVIEW (use agency date stamp)

Causes based on (check one) <input type="checkbox"/> This report <input type="checkbox"/> Investigation and this report <input type="checkbox"/> Investigation <input type="checkbox"/> Could not be determined	Name of Reviewing Office  REVIEWED BY	Date Received
Primary Cause of Accident	Secondary Cause of Accident	Reviewed By

# BOATING ACCIDENT REPORT

## ADDENDUM

### FOR REPORTING AUTHORITY

NAME OF OPERATOR: \_\_\_\_\_ DATE OF ACCIDENT: \_\_\_\_\_

#### ALCOHOL

For operator and each passenger indicate:

OPERATOR	TEST FOR ALCOHOL TAKEN? [ ] YES [ ] NO	TYPE OF TEST [ ] BLOOD [ ] BREATH [ ] URINE [ ] OTHER	TEST RESULTS [ ] POSITIVE [ ] NEGATIVE	BAC _____ %
PASSENGER	TEST FOR ALCOHOL TAKEN? [ ] YES [ ] NO	TYPE OF TEST [ ] BLOOD [ ] BREATH [ ] URINE [ ] OTHER	TEST RESULTS [ ] POSITIVE [ ] NEGATIVE	BAC _____ %
PASSENGER	TEST FOR ALCOHOL TAKEN? [ ] YES [ ] NO	TYPE OF TEST [ ] BLOOD [ ] BREATH [ ] URINE [ ] OTHER	TEST RESULTS [ ] POSITIVE [ ] NEGATIVE	BAC _____ %
PASSENGER	TEST FOR ALCOHOL TAKEN? [ ] YES [ ] NO	TYPE OF TEST [ ] BLOOD [ ] BREATH [ ] URINE [ ] OTHER	TEST RESULTS [ ] POSITIVE [ ] NEGATIVE	BAC _____ %
PASSENGER	TEST FOR ALCOHOL TAKEN? [ ] YES [ ] NO	TYPE OF TEST [ ] BLOOD [ ] BREATH [ ] URINE [ ] OTHER	TEST RESULTS [ ] POSITIVE [ ] NEGATIVE	BAC _____ %

#### DRUGS

For operator and each passenger indicate:

OPERATOR	TEST FOR DRUGS TAKEN? [ ] YES [ ] NO	RESULTS [ ] POSITIVE [ ] NEGATIVE
PASSENGER	TEST FOR DRUGS TAKEN? [ ] YES [ ] NO	RESULTS [ ] POSITIVE [ ] NEGATIVE
PASSENGER	TEST FOR DRUGS TAKEN? [ ] YES [ ] NO	RESULTS [ ] POSITIVE [ ] NEGATIVE
PASSENGER	TEST FOR DRUGS TAKEN? [ ] YES [ ] NO	RESULTS [ ] POSITIVE [ ] NEGATIVE
PASSENGER	TEST FOR DRUGS TAKEN? [ ] YES [ ] NO	RESULTS [ ] POSITIVE [ ] NEGATIVE

NAME OF REVIEWING OFFICE

REVIEWED BY

2. Federal regulations do not require the reporting of accidents on private waters, where States have no jurisdiction, or on State waters in Alaska. Reports of accidents on such waters are included in this report when received by the Coast Guard if they satisfy the other requirements for inclusion.

3. Non-fatal accidents cannot be assumed to have occurred in numbers proportional to the reported statistics because the act of reporting an accident is not a random sampling of accidents in the statistical sense. Rather, selection is based on the ability and willingness of those involved to file a report. The reporting rates of subgroups of accidents, such as those involving personal watercraft, propeller strikes, collisions, or whitewater, probably differ greatly depending upon unspecified variables.

4. Fluctuations from year to year in non-fatal accident statistics may be caused by factors other than the change in the total number of recreational boating accidents. A seemingly small change in the low reporting rate may cause a relatively large change in the statistics.

### **FATALITY RATE**

The most meaningful fatality rate that would provide comparison to other modes of transportation would be to capture the risk of a fatality while boating, measured in fatalities per passenger-hour. Unfortunately, the information necessary for such a calculation is not currently available. A reasonable indicator of safety in recreational boating is a fatality rate which relates the number of reported fatalities to the estimated boat population. Historically, the Coast Guard's fatality rate is the number of reported fatalities per 100,000 recreational boats (estimated). The estimate of the number of boats in the United States is based on nationwide telephone surveys conducted by the Coast Guard for the years 1973 and 1976 and by the American Red Cross in 1989 under a Coast Guard grant.

**FATALITY RATE**  
(per 100,000 estimated boats)

YEAR	FATALITIES	ESTIMATED NUMBER OF BOATS	FATALITY RATE PER 100,000 BOATS
1962	1114	5.95	18.7
1963	1167	6.05	19.3
1964	1192	6.2	19.2
1965	1360	6.35	21.4
1966	1318	6.5	20.3
1967	1312	6.65	19.7
1968	1342	6.85	19.6
1969	1350	7.1	19.0
1970	1418	7.4	19.2
1971	1582	7.85	20.2
1972	1437	8.5	16.9
1973	1754	9.6	18.3
1974	1446	10.75	13.5
1975	1466	11.8	12.4
1976	1264	12.75	9.9
1977	1312	13.3	9.9
1978	1321	13.6	9.7
1979	1400	14.1	9.9
1980	1360	14.6	9.3
1981	1208	15.1	8.0
1982	1178	15.5	7.6
1983	1241	15.8	7.9
1984	1063	16.3	6.5
1985	1116	16.7	6.7
1986	1066	17.3	6.2
1987	1036	17.7	5.9
1988	946	18.4	5.1
1989	896	19.0	4.7
1990	865	19.5	4.4
1991	924	20.0	4.6
1992	816	20.3	4.0
1993	800	20.6	3.9

# EXECUTIVE SUMMARY BOATING STATISTICS - 1993

## Boating Accidents at a Glance

The Coast Guard received reports for a total of 6,335 recreational boating accidents which occurred in 1993; 287 more than in 1992. The casualty data for 1993 showed 800 fatalities and 3,559 injuries. The 800 fatalities in 1993 are the fewest ever recorded and continue a downward trend (page 10). The fatality rate of 3.9 deaths per 100,000 recreational boats (est.) in 1993 is the lowest ever recorded (pages 6 & 7).

## Numbered Recreational Boats

States and jurisdictions numbered a total of 11,282,736 recreational boats (pages 22 & 23), 10,443,908 of which were motorboats. The following is a breakdown of the numbered motorboats by length class:

BOAT LENGTH	PERCENTAGE OF NUMBERED MOTORBOATS
Less than 16'	51.0
16' to less than 26'	45.0
26' to less than 40'	3.2
40' to 65'	.5
More than 65'	.3

## Number of Fatalities by Known Boat Length

Eight out of 10 fatalities occurred on boats less than 26 feet in length. Over 80 percent of the victims drowned (page 11).

## Types of Boating Accidents

There were increases in the numbers of Collisions with Another Vessel, Swampings/Floodings, and Falls Overboard reported in 1993. The number of accidents involving capsizing decreased (page 24 & 25).

While "Collision with Another Vessel" was the most frequently reported type of boating accident, it accounts for only one-tenth of all boating fatalities. In contrast, "Capsizing of a vessel" is one of the least reported types of accidents, but it accounts for nearly one-third of all fatalities (page 12).

## Number of Fatalities by Type of Vessel and Propulsion

The reports for 1993 indicate that 586 more Personal Watercraft (PWC) were involved in accidents than in 1992. Fortunately, the 35 fatalities for accidents involving PWC remained nearly the same (page 30).

In 1993, approximately 80 percent of all fatalities were caused by drowning. More than one-half of all accidents resulting in fatalities involved open

## **EXECUTIVE SUMMARY BOATING STATISTICS - 1993**

motorboats. Nearly all accident victims on rowboats, canoes/kayaks, and inflatable boats drowned last year (page 13).

### **Number of Fatalities by Age of Victim**

More fatalities involved boaters (operators and passengers) between the ages of 20-29 than any other age group. Most accident victims drown regardless of age (page 15).

### **Fatalities by Known Boat Operator Instruction**

Nearly 80 percent of all boating fatalities occur on boats where the operator had no formal boating instruction (page 16).

### **Accident Causes**

The majority of accidents are caused by the boat operator and not by mechanical or equipment failure or environmental causes. Carelessness and failure to maintain a proper lookout are the two primary causes of boating accidents (page 17).

### **Risk of Dying in an Accident by Month**

About one-third of the vessels involved in accidents during January resulted in a fatality. Only six percent of the vessels involved in accidents during July resulted in a fatality (page 18).

### **Fatalities by Age of Operator**

More fatalities occurred on boats where the operator was between the ages of 30 to 39 years old than any other operator age group (page 19).

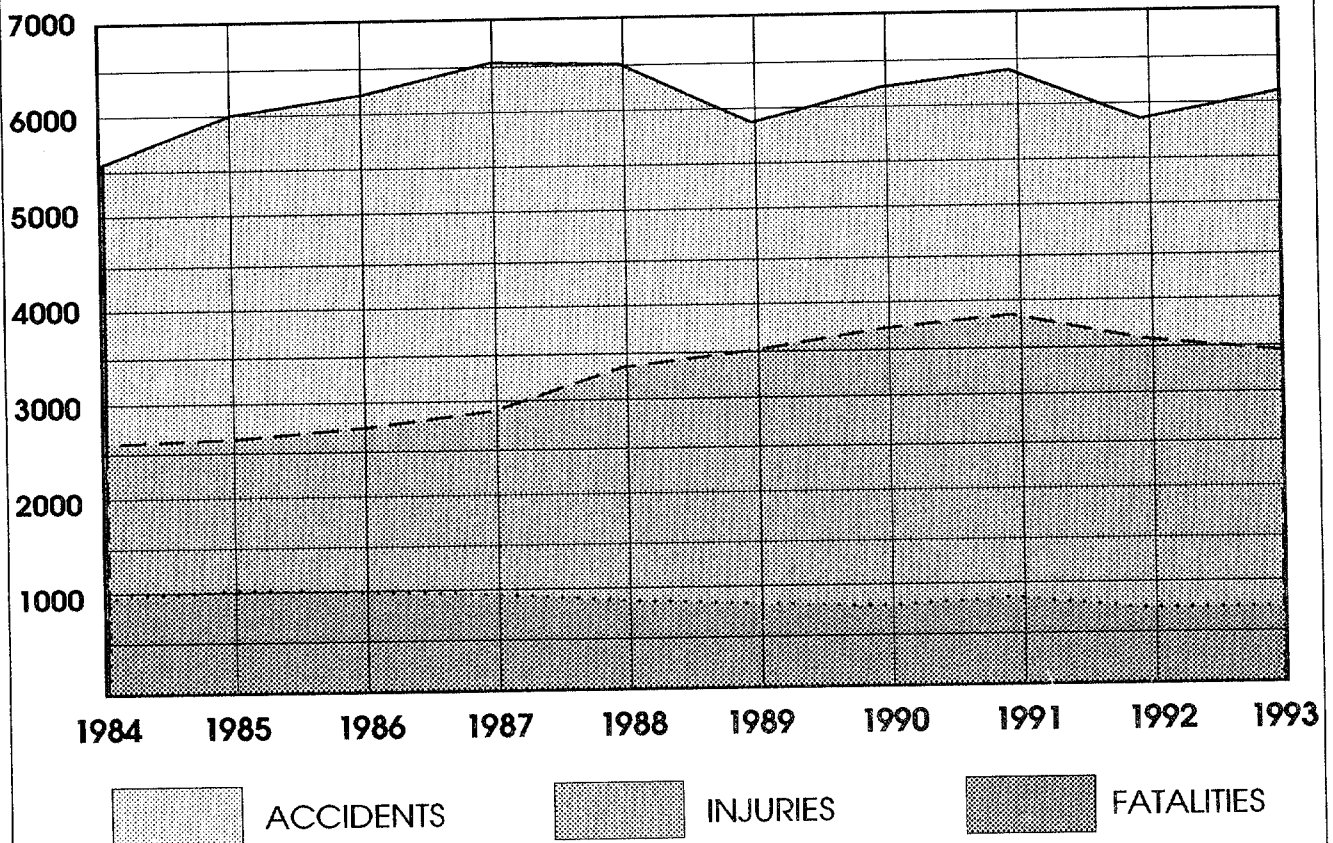
### **Events in Fatal Boating Accident Sequences**

Published statistics on the types of boating accidents refer only to the first event occurring in the accident sequence. However, many accidents involve more than one event. For example, there were 10 fatal accidents involving a boat or propeller strike where the strike was the first accident event. By adding those cases where a boat capsized, a passenger fell overboard, or other event preceded the boat or propeller strike, there were actually a total of 45 fatal accidents involving a boat or propeller strike. The Coast Guard collects and maintains all of the sequential event data in a computer database which is available upon request. The table on page 20 reflects all events coded for each reported fatal accident in 1993.

### **USCG Search and Rescue (SAR) Cases by Type of Vessel Assisted**

Sixty-three percent of all U.S. Coast Guard SAR cases in 1993, e.g., approximately 30,000 cases, involved assistance provided to recreational vessels (page 21).

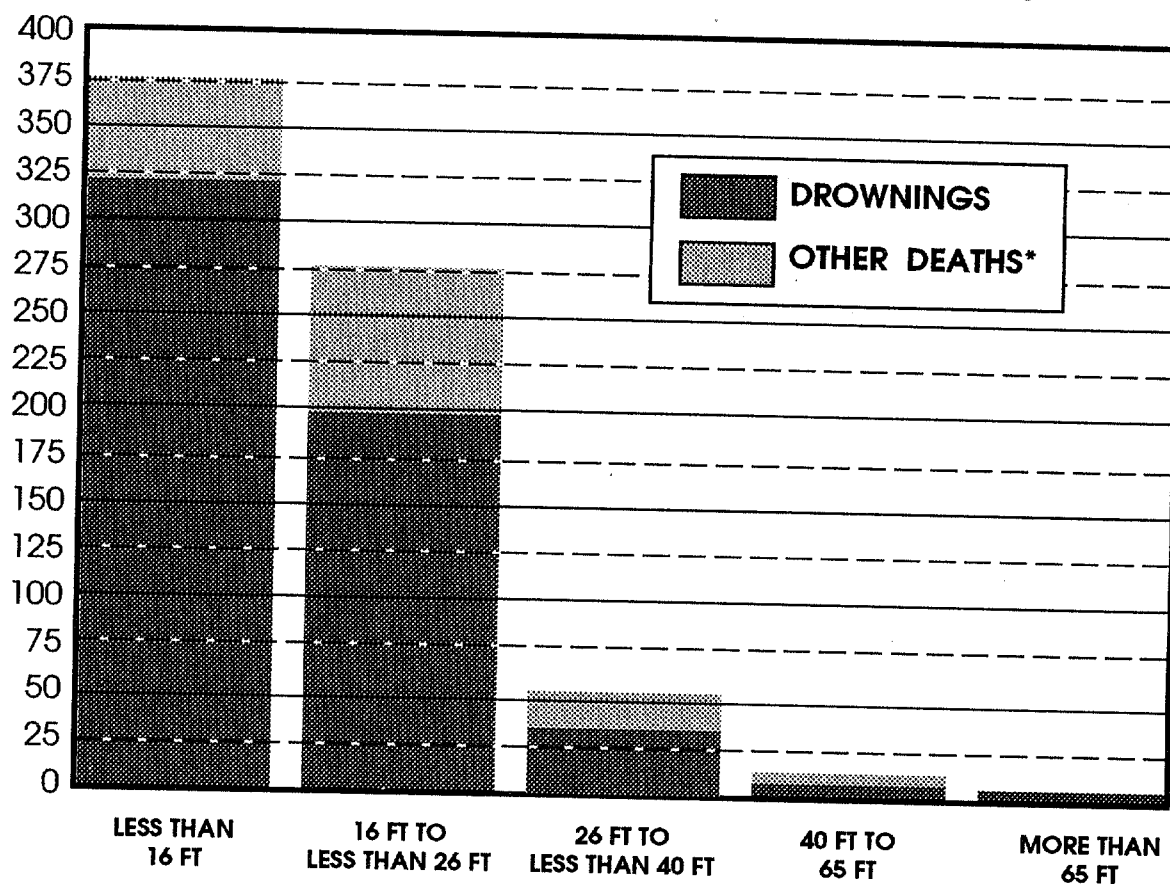
## BOATING ACCIDENTS AT A GLANCE



YEAR	FATALITIES	INJURIES	ACCIDENTS
1984	1063	2709	5700
1985	1116	2757	6237
1986	1066	2847	6407
1987	1036	3051	6746
1988	946	3476	6718
1989	896	3635	6063
1990	865	3822	6411
1991	924	3967	6573
1992	816	3683	6048
1993	800	3559	6335



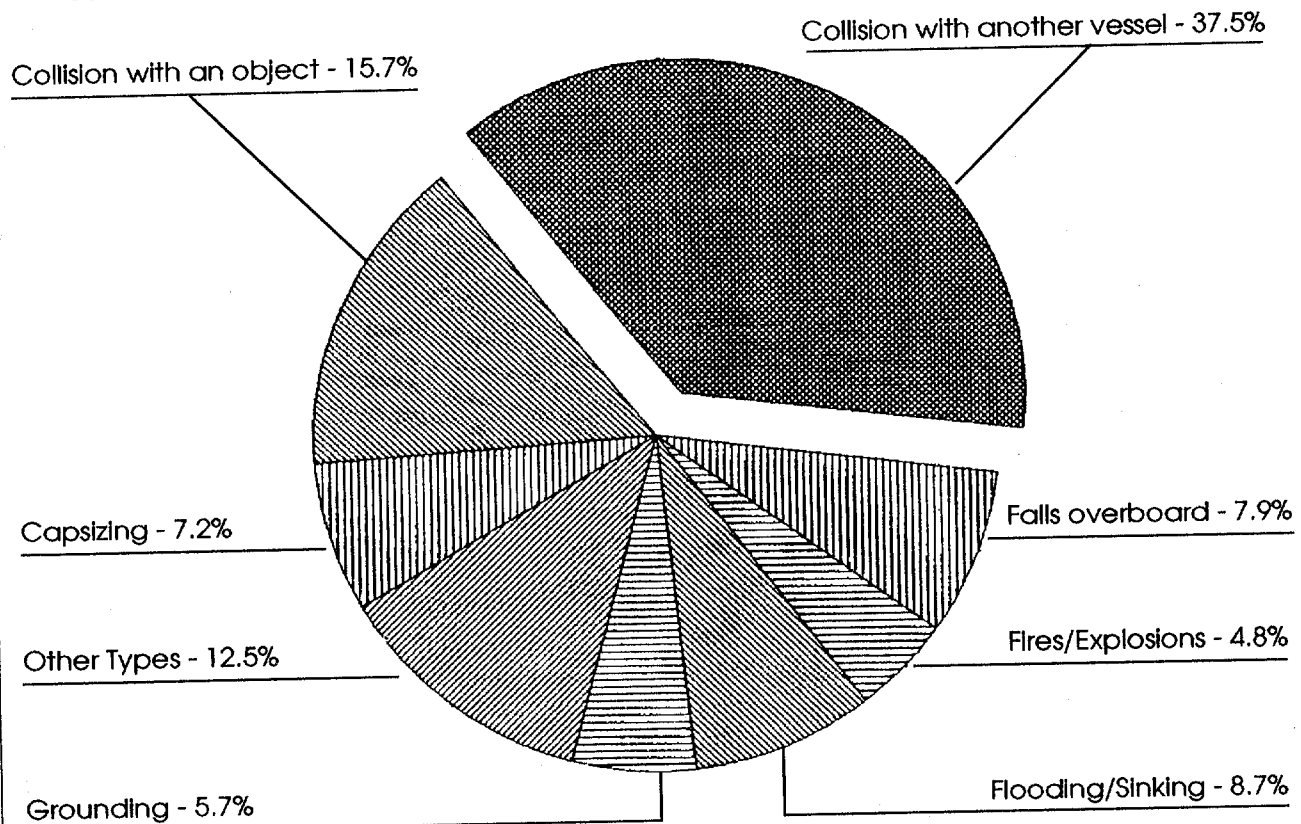
# NUMBER OF FATALITIES BY KNOWN BOAT LENGTH CLASS - 1993



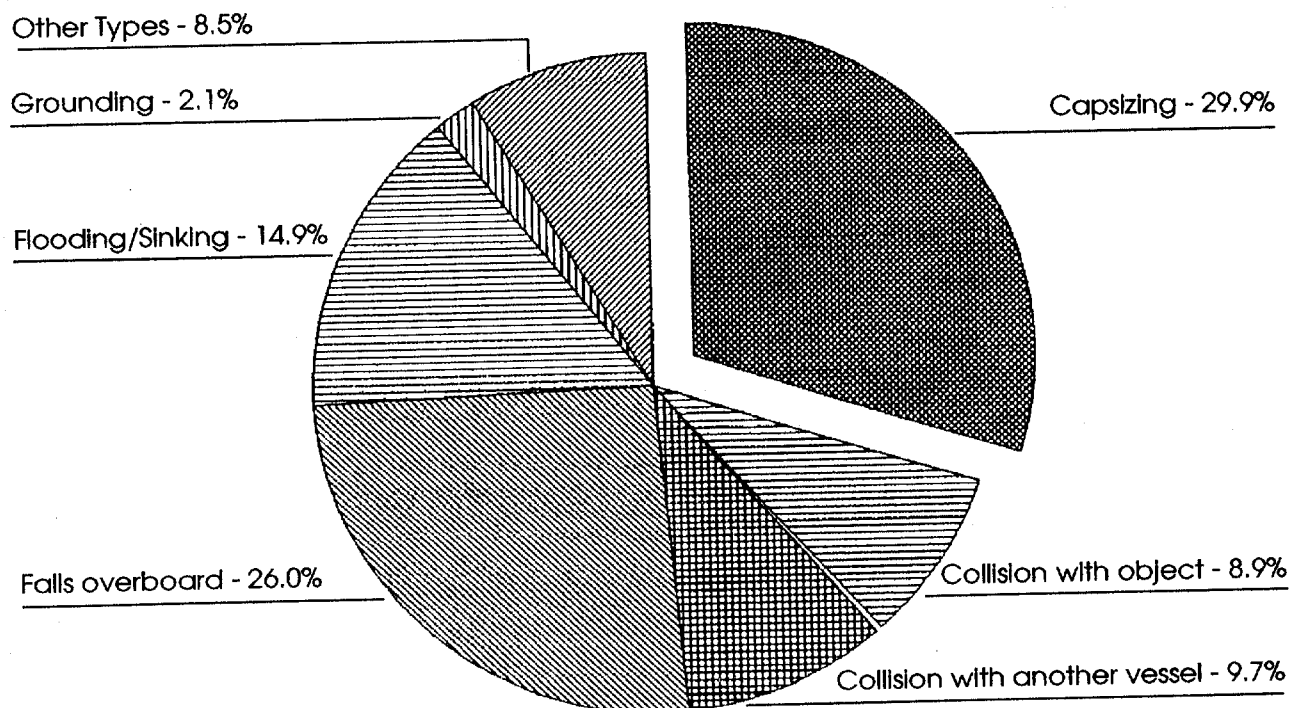
LENGTH	DROWNINGS	OTHER DEATHS*	TOTAL
Less than 16 feet	322	40	362
16 feet to less than 26 feet	194	69	263
26 feet to less than 40 feet	35	10	45
40 feet to 65 feet	4	1	5
More than 65 feet	0	1	1

\*Other deaths denotes types of fatalities other than drownings.

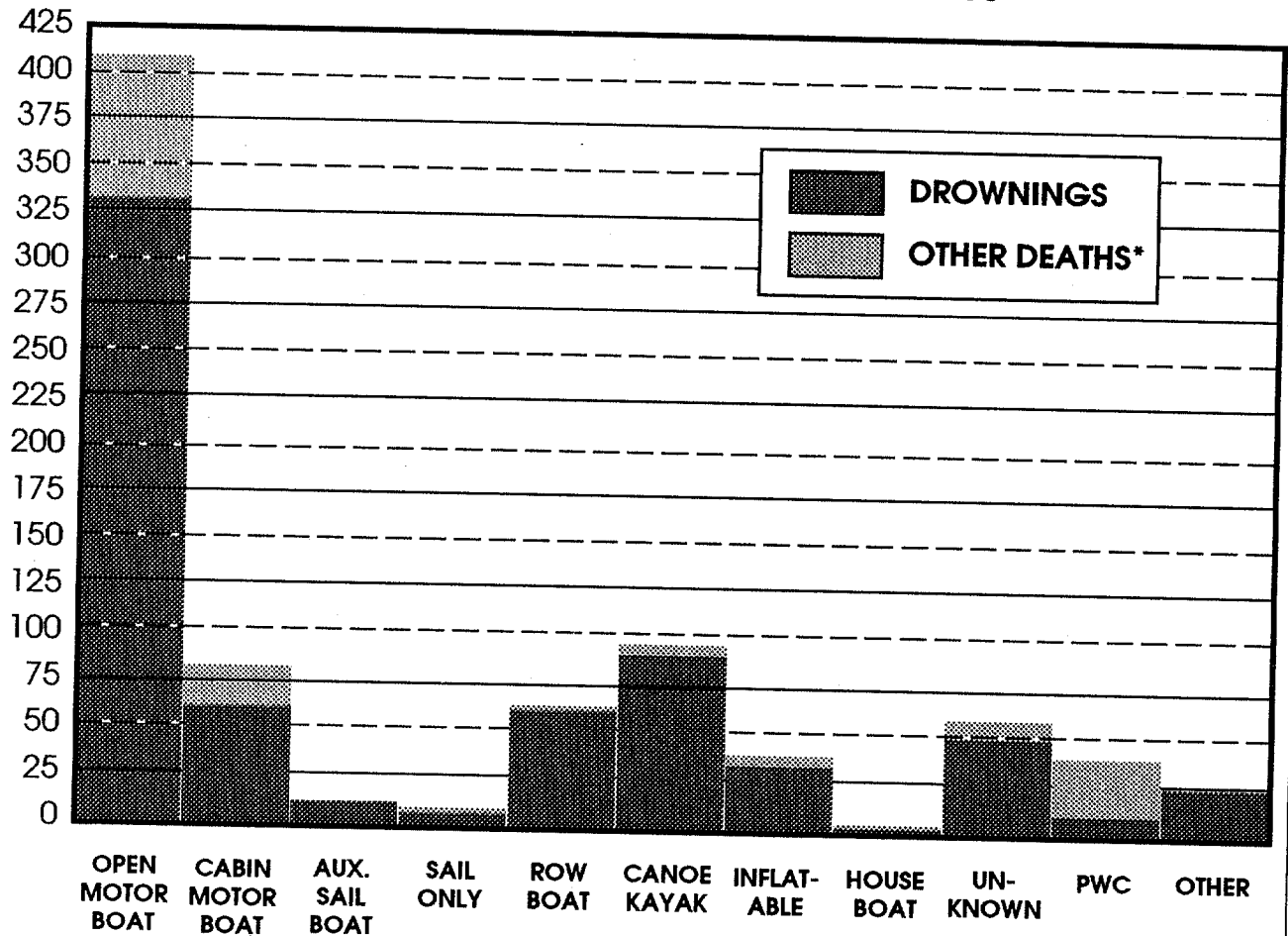
### TYPES OF BOATING ACCIDENTS AS A PERCENT OF TOTAL ACCIDENTS - 1993



### TYPES OF BOATING ACCIDENTS AS A PERCENT OF TOTAL FATALITIES - 1993



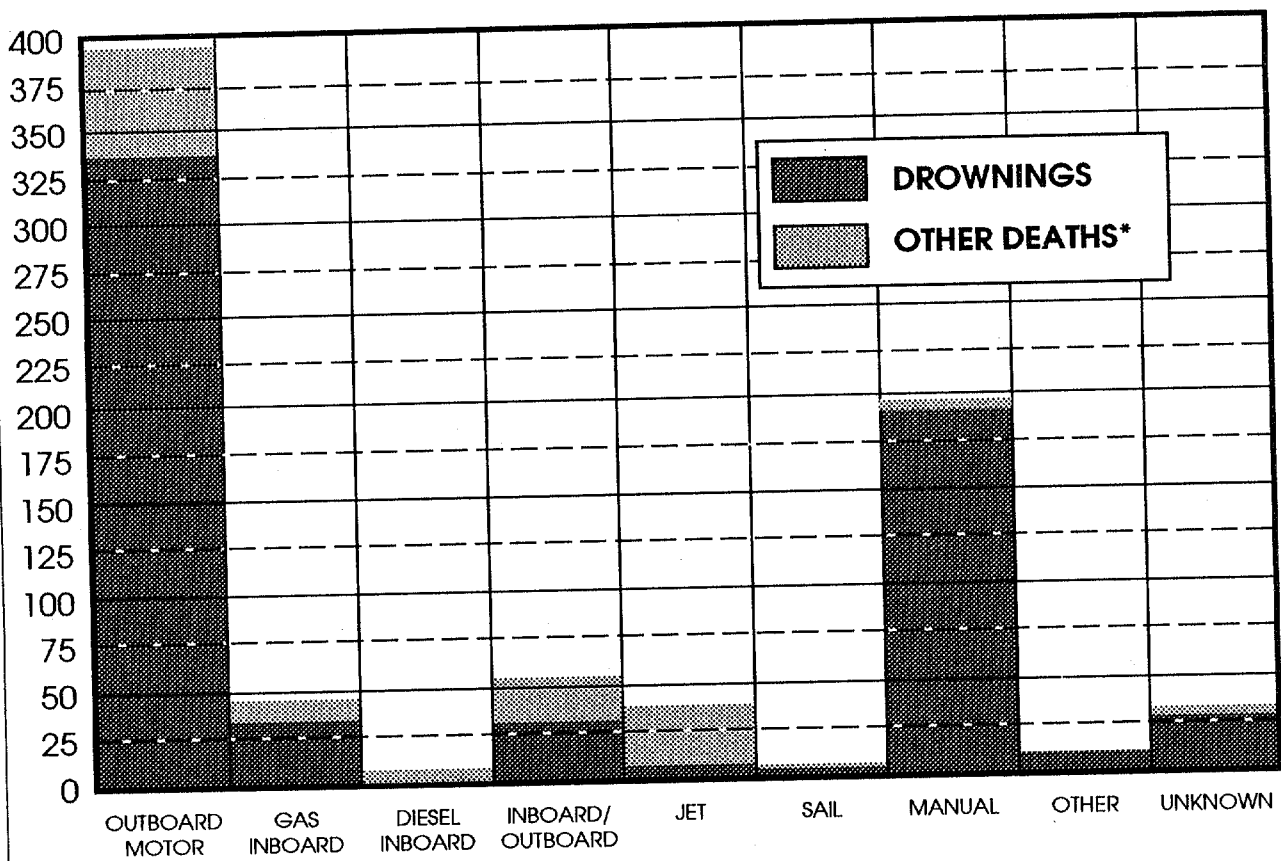
**NUMBER OF FATALITIES BY TYPE OF VESSEL - 1993**



BOAT TYPE	DROWNINGS	OTHER DEATHS*	TOTAL
Open Motorboat	332	75	407
Cabin Motorboat	60	19	79
Auxiliary Sail	10	0	10
Sail Only	6	1	7
Rowboat	58	1	59
Canoe/Kayak	89	2	91
Inflatable	31	2	33
Houseboat	3	1	4
Unknown	49	6	55
Personal Watercraft	9	26	35
Other	20	0	20

\*Other deaths denotes types of fatalities other than drownings

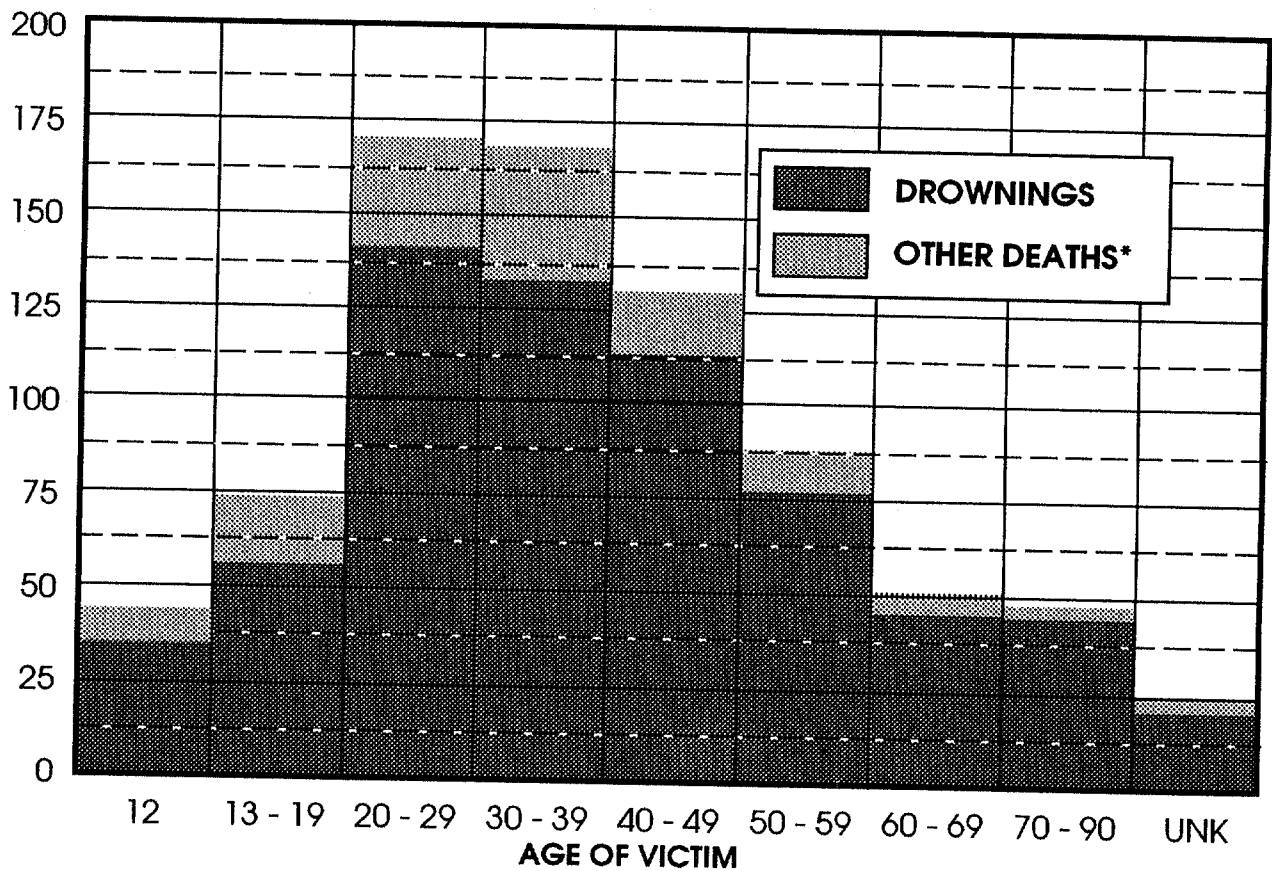
# NUMBER OF FATALITIES BY TYPE OF PROPULSION - 1993



BOAT TYPE	DROWNINGS	OTHER DEATHS*	TOTAL
Outboard	334	57	391
Gas Inboard	34	10	44
Diesel Inboard	6	0	6
Inboard/Outboard	28	24	52
Jet	9	31	40
Sail	6	1	7
Manual	185	5	190
Other	10	0	10
Unknown	55	5	60

\*Other deaths denotes types of fatalities other than drownings

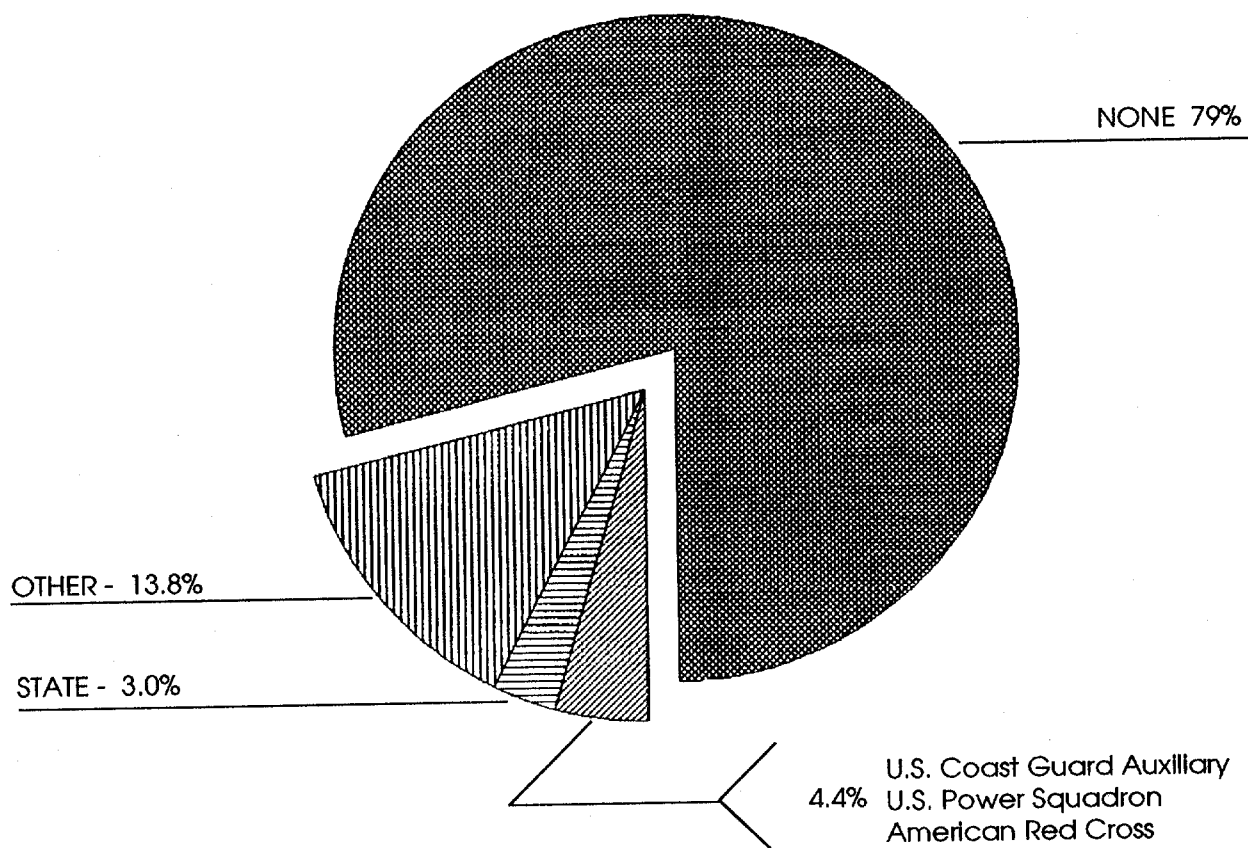
### NUMBER OF FATALITIES BY AGE OF VICTIM - 1993



AGE OF VICTIM	DROWNINGS	OTHER DEATHS*	TOTAL
Less than 12 years	35	8	43
13 to 19 years	57	16	73
20 to 29 years	141	29	170
30 to 39 years	133	34	167
40 to 49 years	113	18	131
50 to 59 years	77	12	89
60 to 69 years	46	7	53
70 to 90 years	42	5	47
Unknown	23	4	27

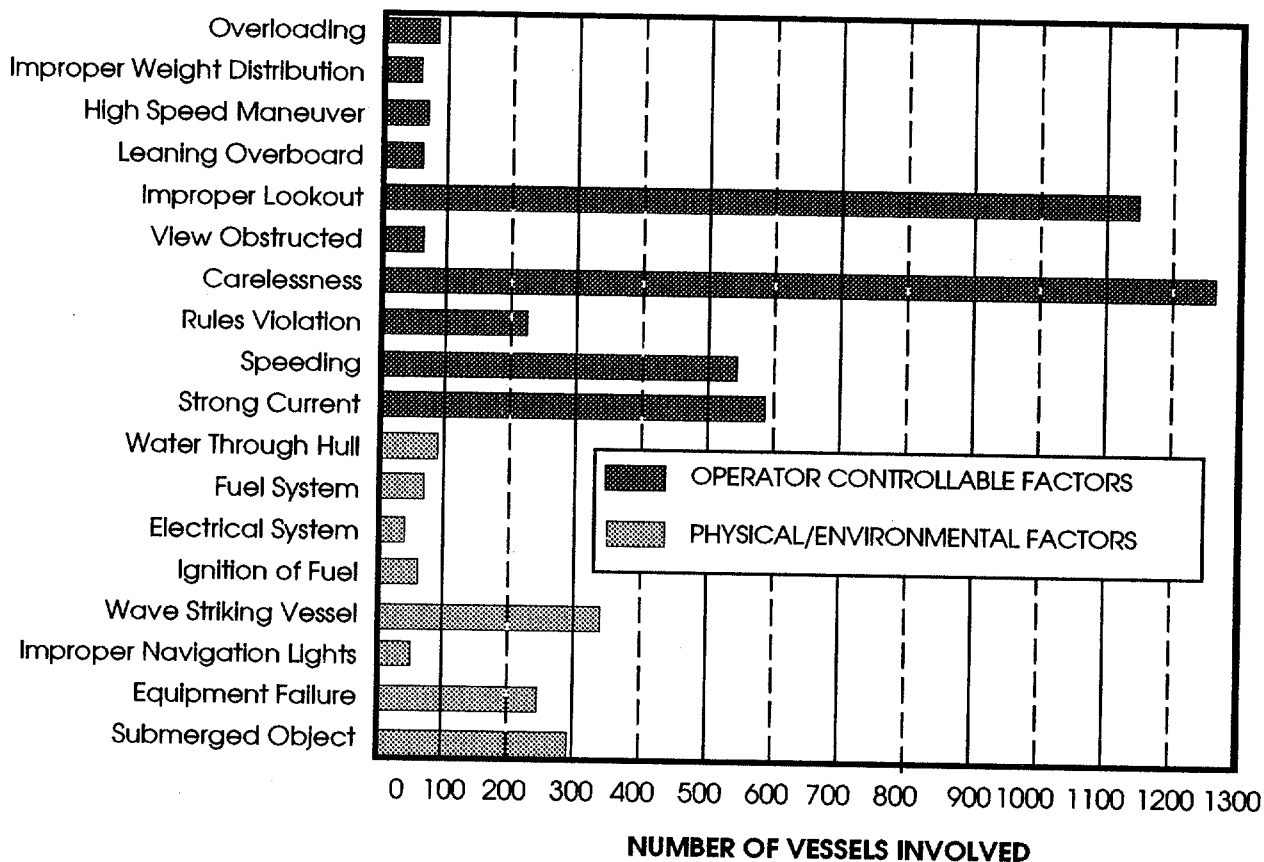
\*Other deaths denotes types of fatalities other than drownings

# PERCENT OF FATALITIES BY KNOWN BOAT OPERATOR INSTRUCTION - 1993



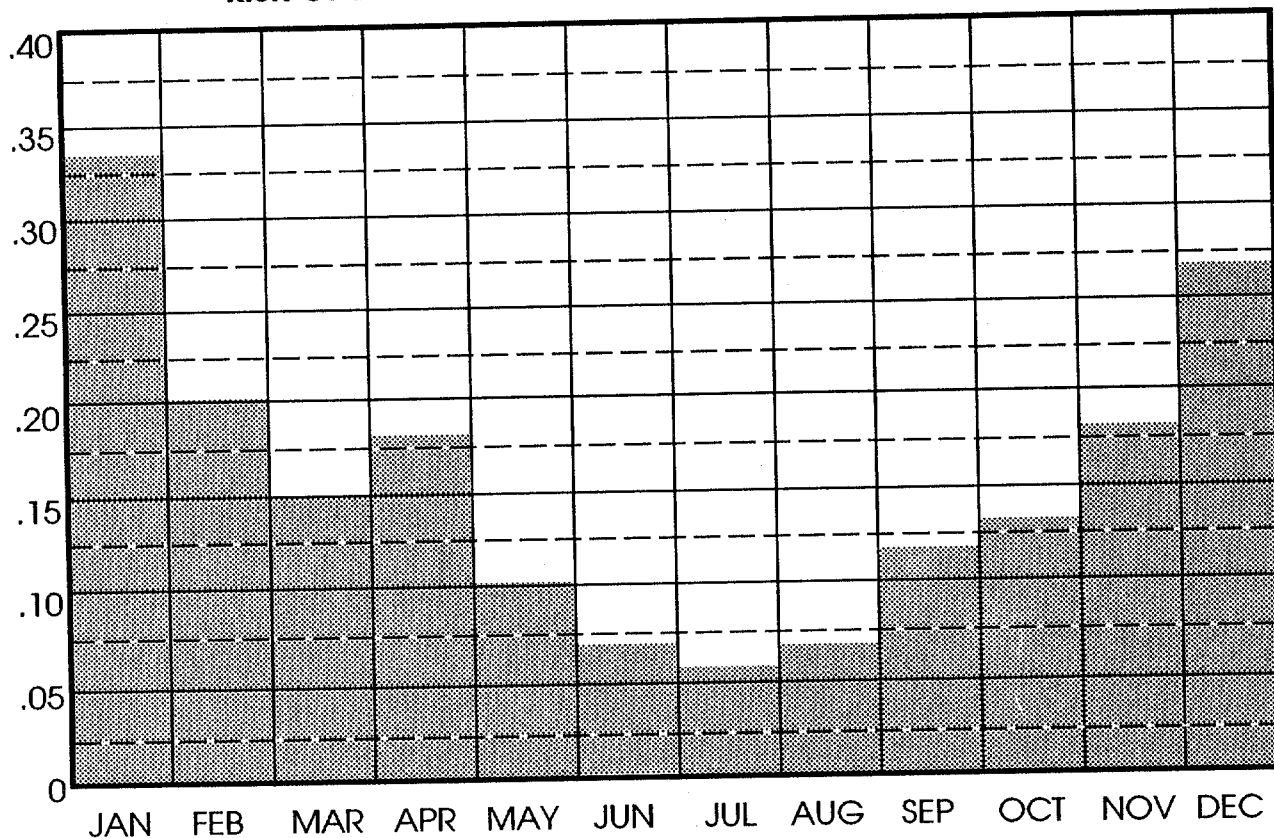
TYPE OF BOATING INSTRUCTION	FATALITIES
U.S. Coast Guard Auxiliary U.S. Power Squadron American Red Cross .....	18
State .....	12
Other .....	56
None .....	319

# FACTORS IN SPECIFIC ACCIDENT CAUSES DIVIDED BY OPERATOR CONTROLLABLE FACTORS AND PHYSICAL/ENVIRONMENTAL FACTORS



ACCIDENTS INVOLVING OPERATOR CONTROLLABLE FACTORS	VESSELS INVOLVED	ACCIDENTS INVOLVING PHYSICAL/ENVIRONMENTAL FACTORS	VESSELS INVOLVED
Overloading .....	83	Water Entered Through Hull .....	92
Improper Weight Distribution.....	63	Fuel System .....	60
High Speed Maneuver .....	69	Electrical System .....	43
Leaning Overboard .....	62	Ignition of Fuel .....	57
Improper Lookout .....	1155	Wave Striking Vessel .....	338
View Obstructed .....	67	Improper Navigation Lights .....	51
Carelessness .....	1278	Steering, throttle (non-powered equip.) ...	249
Rules of the Road Violation .....	223	Submerged object .....	297
Speeding .....	536		
Strong Current .....	582		
PERCENTAGE OF ACCIDENTS INVOLVING OPERATOR CONTROLLABLE FACTORS .....	78%	PERCENTAGE OF ACCIDENTS INVOLVING PHYSICAL/ ENVIRONMENTAL FACTORS .....	22%

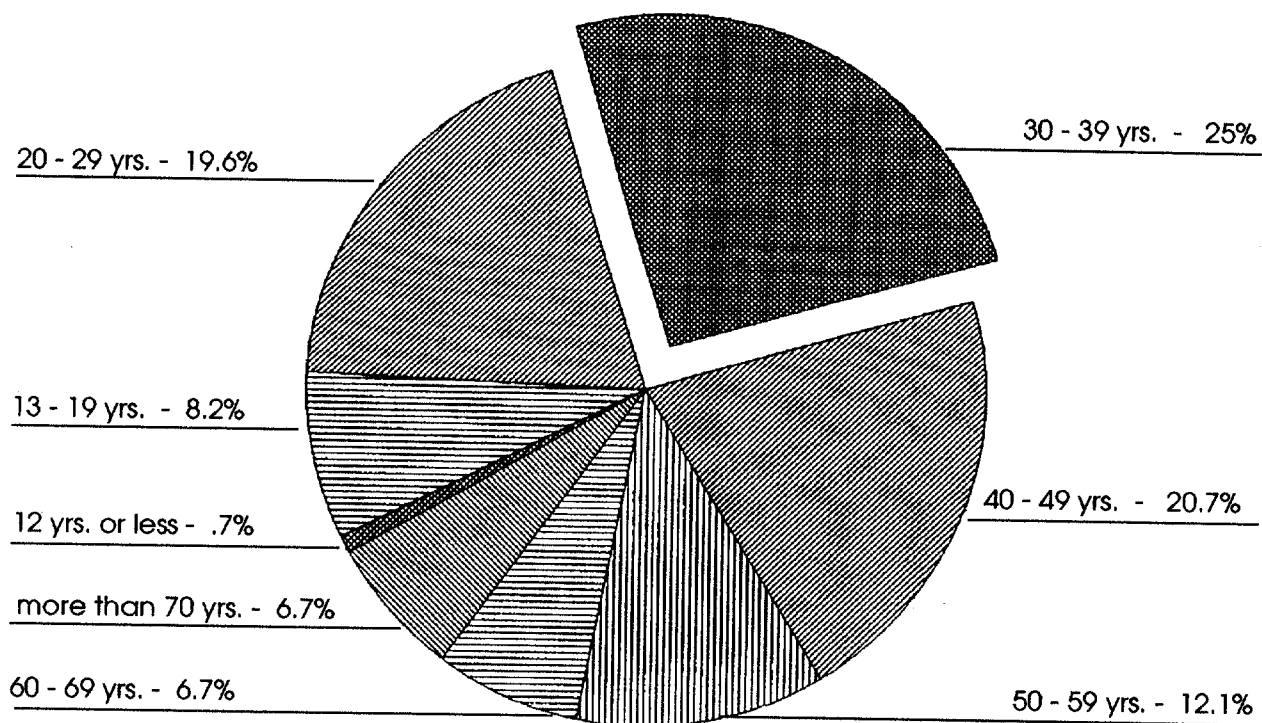
**RISK OF DYING IN AN ACCIDENT BY MONTH - 1993**



MONTH	VESSELS INVOLVED	FATALITIES	RISK OF DYING
January	123	39	.32
February	142	28	.20
March	277	41	.15
April	480	87	.18
May	1204	126	.10
June	1205	89	.07
July	1931	110	.06
August	1530	112	.07
September	704	83	.12
October	350	44	.13
November	149	27	.18
December	111	30	.27

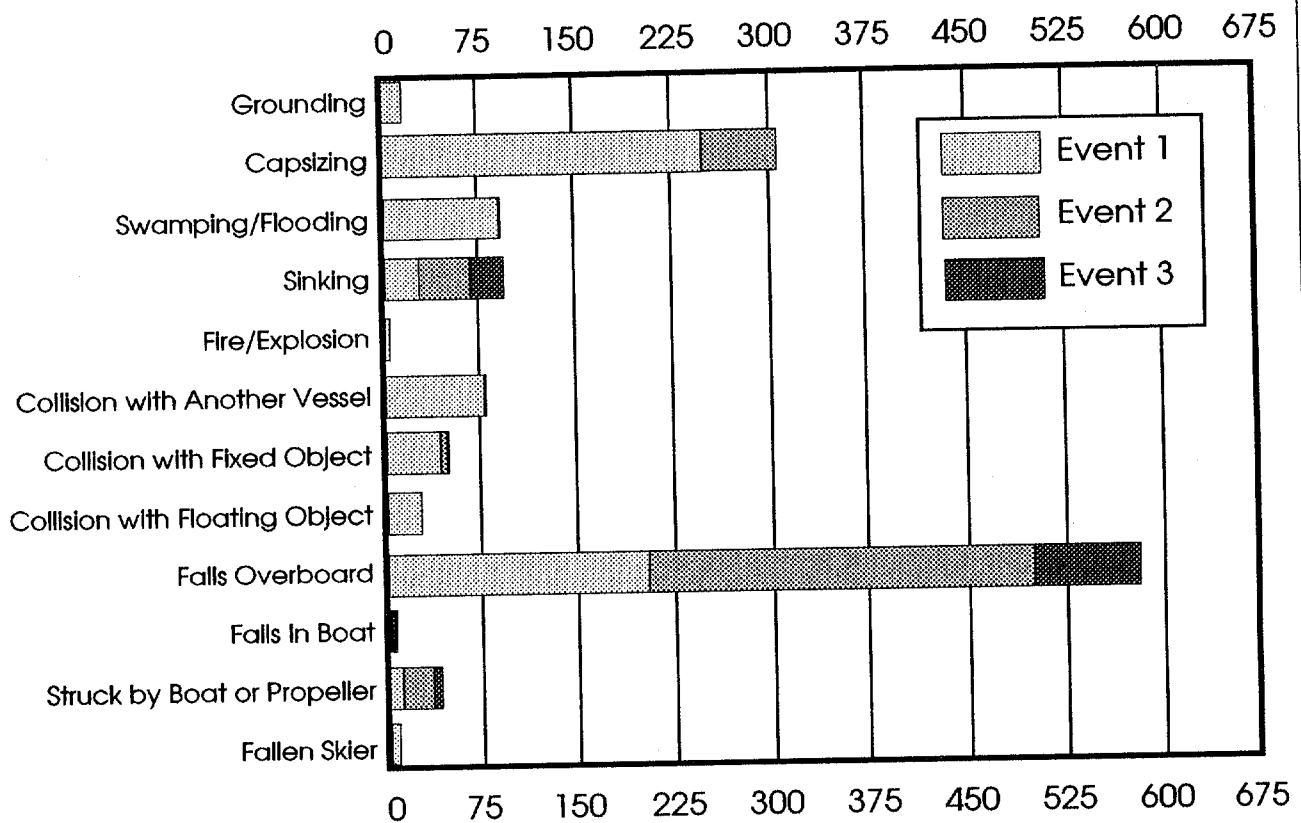


# PERCENT OF FATALITIES BY AGE OF OPERATOR - 1993



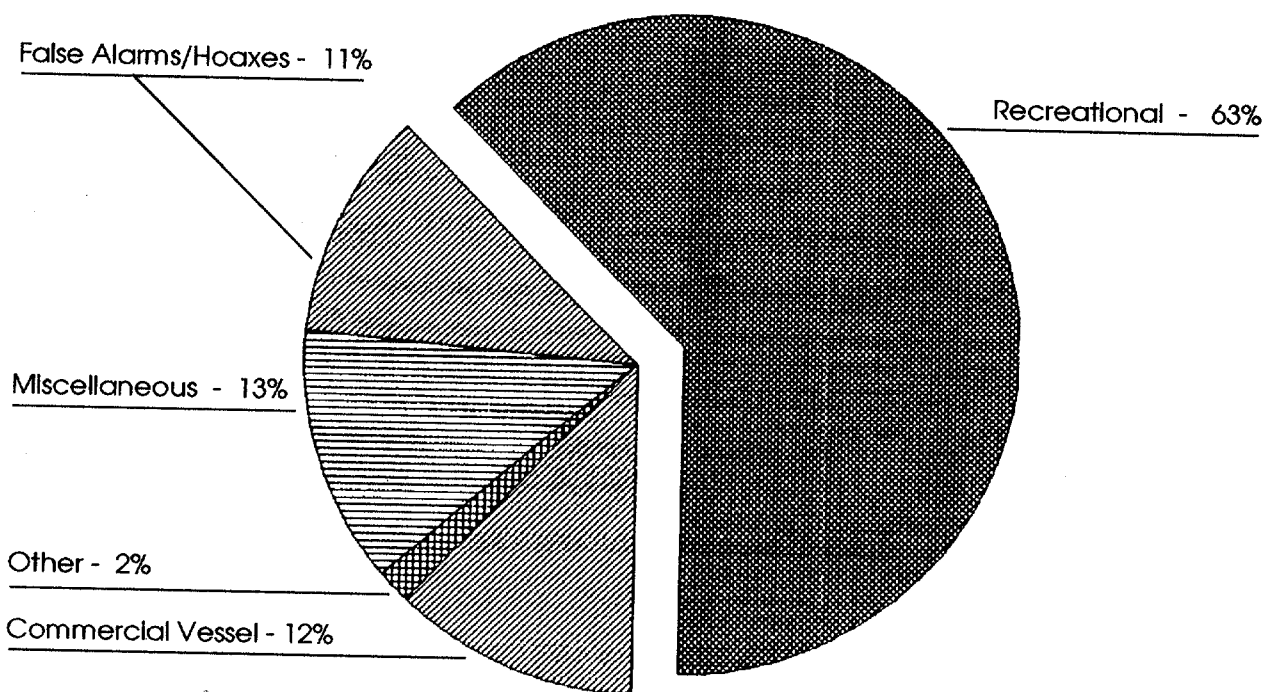
OPERATOR AGE	FATALITIES
12 years or less .....	5
13 to 19 years .....	55
20 to 29 years .....	131
30 to 39 years .....	167
40 to 49 years .....	138
50 to 59 years .....	81
60 to 69 years .....	45
more than 70 years .....	45

## EVENTS IN FATAL BOATING ACCIDENT SEQUENCES - 1993



FATALITIES				
	Event No. 1	Event No. 2	Event No. 3	Total
Grounding .....	17	0	0	17
Capsizing .....	239	59	0	298
Swamping/Flooding .....	90	2	0	92
Sinking .....	29	53	25	107
Fire/Explosion .....	5	0	0	5
Collision with Another Vessel .....	78	2	0	80
Collision with Fixed Object .....	47	3	1	51
Collision with Floating Object .....	24	0	0	24
Falls Overboard .....	208	300	65	573
Falls In Boat .....	2	1	1	4
Struck by Boat or Propeller .....	10	28	7	45
Fallen Skier .....	7	0	0	7

## USCG SEARCH AND RESCUE (SAR) CASES BY TYPE OF VESSEL ASSISTED - 1993



## BOAT NUMBERING

Chapter 123 of Title 46, United States Code requires each undocumented vessel equipped with propulsion machinery to be numbered in the State in which it is principally operated. The law allows the States and other jurisdictions to create their own numbering systems as long as they meet or exceed Federal requirements. At the end of 1993, only Alaska lacked its own approved numbering system. In that jurisdiction, the Coast Guard performs the numbering function and requires only undocumented vessels equipped with propulsion machinery used on waters subject to the jurisdiction of the United States to be numbered. Many States require the numbering of non-powered boats, such as sailboats. A list of the numbering requirements of the States is found on page 22.

The statistics on pages 22 and 23 are derived from reports of the actual counts of valid boat numbers that have been issued by States and other jurisdictions. Their accuracy is affected by several factors, including compliance of the boat owners with numbering and registration laws. The numbering requirements for each jurisdiction are given so that comparisons may be made. Estimates are provided for non-reporting jurisdictions based on the growth in numbering as reported in the past.

# NUMBERING DATA BY STATE

(Does not include vessels that may have to be otherwise licensed or registered in a State)

		TOTAL BOATS NUMBERED		SCOPE OF CURRENT BOAT NUMBERING SYSTEM
		1993	1992	
TOTAL		11,282,736	11,132,386	(Does not include sailboards which are numbered in some States)
	RANK			
Alabama	17	246,359	243,541	All motorboats, sailboats and rental boats
*Alaska	47	31,340	32,331	All motorboats used on Federal waters
Arizona	28	155,815	146,728	All watercraft, except inflatables 12 feet in length or less
Arkansas	26	160,430	135,643	All motorboats with exceptions <sup>1</sup>
California	2	820,219	813,386	All motorboats; sailboats over 8 feet in length
Colorado	34	86,147	85,885	All motorboats and sailboats
Connecticut	33	96,516	97,618	All motorboats; sailboats 19.5 feet or more in length
Delaware	42	42,144	40,288	All motorboats
Dist. of Col.	52	5,788	3,654	All watercraft
Florida	4	719,071	702,652	All motorboats
Georgia	13	298,012	283,898	All motorboats; sailboats 12 feet or more in length
Hawaii	51	13,288	13,970	All motorboats; sailboats over 8 feet in length
Idaho	36	72,660	68,827	All motorboats and sailboats
Illinois	10	352,826	349,053	All watercraft, except canoes and kayaks
Indiana	25	180,564	196,260	All motorboats
Iowa	22	201,446	197,866	All watercraft with exceptions <sup>2</sup>
Kansas	32	97,308	97,242	All motorboats and sailboats
Kentucky	29	142,833	137,711	All motorboats, except electric motors 1 hp or less
Louisiana	12	300,248	300,172	All motorboats; sailboats more than 12 feet in length
Maine	31	113,590	112,981	All motorboats
Maryland	24	181,850	180,391	All motorboats
Massachusetts	30	120,944	145,991	All motorboats
Michigan	1	874,818	877,581	All watercraft with exceptions <sup>3</sup>
Minnesota	3	728,116	727,152	All motorboats with exceptions <sup>4</sup>
Mississippi	21	204,894	196,545	All motorboats and sailboats
Missouri	15	287,158	283,065	All motorboats; sailboats over 12 feet in length
Montana	43	42,082	41,299	All motorboats; sailboats 12 feet or more in length
Nebraska	38	62,359	56,626	All motorboats
Nevada	40	45,990	43,819	All motorboats
New Hampshire	35	80,520	79,379	All motorboats; sailboats 20 feet or more in length
New Jersey	27	159,084	156,288	All watercraft with exceptions <sup>5</sup>
New Mexico	41	43,540	39,920	All motorboats and sailboats
New York	7	442,745	438,342	All motorboats
North Carolina	14	294,761	283,396	All motorboats; sailboats more than 14 feet in length
North Dakota	46	34,446	42,270	All motorboats
Ohio	8	384,048	382,218	All watercraft
Oklahoma	20	205,788	197,846	All watercraft except jonboats with less than 10 hp
Oregon	23	184,007	180,138	All motorboats; sailboats 12 feet or more in length
Pennsylvania	11	311,542	311,776	All motorboats
Rhode Island	49	29,629	31,966	All motorboats; sailboats; rowboats > 12 feet in length
South Carolina	9	362,277	351,753	All motorboats
South Dakota	45	38,762	41,212	All motorboats; all other boats over 12 feet in length
Tennessee	16	264,194	255,043	All motorboats and sailboats
Texas	5	591,879	569,482	All motorboats and sailboats
Utah	37	62,400	61,970	All motorboats and sailboats
Vermont	44	39,907	36,270	All motorboats
Virginia	19	210,323	206,369	All motorboats
Washington	18	234,725	226,555	All motorboats with exceptions <sup>6</sup> ; sailboats ≥ 16 ft in length
West Virginia	39	47,399	44,714	All motorboats
Wisconsin	6	515,342	512,234	All motorboats; sailboats over 12 feet in length
Wyoming	50	24,628	24,110	All motorboats except motors less than 5 horsepower
Guam	54	1,737	1,737	All motorboats (unconfirmed)
Puerto Rico	48	29,883	36,648	All motorboats; vessels adapted to hold a motor
Virgin Islands	53	3,822	7,777	All motorboats
Am. Samoa	56	156	114	All motorboats (unconfirmed)
N. Marianas	55	377	684	All motorboats (unconfirmed)

\*Alaska did not have an approved numbering system as of December 31, 1993. The Coast Guard is the numbering authority.

<sup>1</sup> Arkansas excludes boats with motors of 10 HP or less used only during daylight.

<sup>2</sup> Iowa excludes inflatables under 7 feet in length and canoes/kayaks under 13 feet in length.

<sup>3</sup> Michigan excludes manually propelled boats 16 feet or less in length, and rafts, canoes, kayaks and manually propelled rental boats.

<sup>4</sup> Minnesota excludes non-motorized boats 9 feet in length and under, duckboats during duckhunting season, and riceboats during harvest season.

<sup>5</sup> New Jersey excludes non-motorized boats 12 feet or less in length and canoes, kayaks, racing shells and rowing sculls.

<sup>6</sup> Washington excludes motorboats < 16 feet with motors 10 horsepower or less used solely on exclusive State waters

# **CLASSIFICATION OF NUMBERED MOTORBOATS BY PROPULSION AND HULL MATERIAL<sup>1</sup> - 1993**

	WOOD	FIBERGLASS	METAL <sup>2</sup>	INFLATABLE	OTHER	TOTAL
<b>Less Than 16 feet</b>						
Outboard Motorboat	114,010	1,581,667	2,646,471	59,024	202,177	4,603,349
Outboard Sailboat	861	7,438	686	66	292	9,343
Inboard Motorboat	4,398	332,246	16,261	1,448	4,522	358,875
Inboard Sailboat	26	233	26	110	18	413
Stern drive (I/O)	756	210,509	84,870	265	9,711	306,111
Total	120,051	2,132,093	2,748,314	60,913	216,720	5,278,091
<b>16 feet to Less Than 26 feet</b>						
Outboard Motorboat	58,012	1,722,095	1,180,310	3,547	46,153	3,010,117
Outboard Sailboat	646	27,524	663	16	82	28,931
Inboard Motorboat	29,512	575,846	54,649	285	4,613	664,905
Inboard Sailboat	155	2,632	45	10	18	2,860
Stern drive (I/O)	5,772	1,011,238	49,498	399	6,916	1,073,823
Total	94,097	3,339,335	1,285,165	4,257	57,782	4,780,636
<b>26 feet to Less Than 40 feet</b>						
Outboard Motorboat	23,097	24,901	34,774	353	1,228	84,353
Outboard Sailboat	183	3,398	23	3	18	3,625
Inboard Motorboat	29,018	112,250	10,224	118	918	152,528
Inboard Sailboat	525	12,527	109	8	44	13,213
Stern drive (I/O)	5,417	68,830	5,285	119	324	79,975
Total	58,240	221,906	50,415	601	2,532	333,694
<b>40 feet to 65 feet</b>						
Outboard Motorboat	2,454	1,114	4,831	41	192	8,632
Outboard Sailboat	10	59	6	0	3	78
Inboard Motorboat	5,112	18,104	4,522	58	248	28,044
Inboard Sailboat	118	935	50	1	16	1,120
Stern drive (I/O)	1,128	4,049	3,741	101	148	9,167
Total	8,822	24,261	13,150	201	607	47,041
<b>More than 65 feet</b>						
Outboard Motorboat	113	633	413	47	248	1,454
Outboard Sailboat	0	5	1	0	0	6
Inboard Motorboat	611	718	702	0	33	2,064
Inboard Sailboat	13	7	8	0	0	28
Stern drive (I/O)	120	454	313	2	5	894
Total	857	1,817	1,437	49	286	4,446
<b>All Numbered Motorboats</b>						
Outboard Motorboat	197,686	3,330,410	3,866,799	63,012	249,998	7,707,905
Outboard Sailboat	1,700	38,424	1,379	85	395	41,983
Inboard Motorboat	68,651	1,039,164	86,358	1,909	10,334	1,206,416
Inboard Sailboat	837	16,334	238	129	96	17,634
Stern drive (I/O)	13,193	1,295,080	143,707	886	17,104	1,469,970
Total	282,067	5,719,412	4,098,481	66,021	277,927	10,443,908

<sup>1</sup> The figures in this table are derived from reports from the States and jurisdictions. There are a total of 11,282,736 numbered vessels. This table classifies 10,443,908 numbered **motorboats** by propulsion and hull material. The 838,828 numbered boats not shown in this table include nonpowered sailboats, non-powered canoes, non-powered rowboats, auxiliary sailboats where the type of engine is unknown, and other boats where State and jurisdiction reports do not classify the type of mechanical propulsion. (More accurate figures on numbers of auxiliary sailboats by type of propulsion will be provided when all State and jurisdiction reports distinguish between auxiliary sailboats equipped with inboards or outboards.)

In this table Personal Watercraft (PWC) are classified as fiberglass, inboard motorboats less than 16 feet in length, because a number of State and jurisdiction reports do not classify PWC as a separate vessel category. A more accurate figure on the number of numbered PWC will be provided when all States and jurisdictions classify PWC as a separate vessel category.

<sup>2</sup> Includes steel and aluminum.

## FIVE YEAR SUMMARY OF BOATING ACCIDENTS

1993 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>6,335</b>	<b>800</b>	<b>3,559</b>	<b>\$20,220,500</b>
Grounding	363	17	156	\$1,480,100
Capsizing	453	239	245	\$780,500
Swamping/Flooding	415	90	105	\$1,464,900
Sinking	139	29	27	\$490,300
Fire or Explosion of Fuel	207	5	114	\$3,026,200
Other Fire or Explosion	98	0	31	\$3,568,000
Collision with Another Vessel	2,379	78	1,290	\$5,845,600
Collision with Fixed Object	789	47	470	\$2,362,100
Collision with Floating Object	203	24	72	\$545,700
Falls Overboard	498	208	323	\$333,000
Falls Within Boat	169	2	183	\$146,800
Struck by Boat or Propeller	183	10	173	\$32,900
Fallen Skier	271	7	270	\$5,800
Other Casualty; Unknown	168	44	100	\$138,600

1992 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>6,048</b>	<b>816</b>	<b>3,683</b>	<b>\$34,766,700</b>
Grounding	341	16	203	\$3,140,600
Capsizing	458	248	222	\$2,912,300
Swamping/Flooding	323	82	93	\$1,120,200
Sinking	202	30	25	\$1,353,900
Fire or Explosion of Fuel	194	1	213	\$3,126,100
Other Fire or Explosion	101	3	22	\$11,043,600
Collision with Another Vessel	2,203	79	1,369	\$5,778,600
Collision with Fixed Object	839	74	503	\$5,389,300
Collision with Floating Object	211	5	83	\$633,200
Falls Overboard	431	212	257	\$84,200
Falls Within Boat	167	3	172	\$43,200
Struck by Boat or Propeller*	116	8	111	\$2,200
Fallen Skier	299	9	293	\$3,800
Other Casualty; Unknown	163	46	117	\$135,500

1991 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>6,573</b>	<b>924</b>	<b>3,967</b>	<b>\$24,772,300</b>
Grounding	378	15	225	\$3,180,300
Capsizing	553	326	249	\$1,223,900
Swamping/Flooding	334	60	117	\$1,064,700
Sinking	199	11	33	\$1,408,000
Fire or Explosion of Fuel	267	5	177	\$3,826,200
Other Fire or Explosion	94	9	25	\$2,928,000
Collision with Another Vessel	2,311	82	1,406	\$6,379,100
Collision with Fixed Object	869	67	576	\$3,844,200
Collision with Floating Object	217	19	71	\$663,200
Falls Overboard	479	260	254	\$110,100
Falls Within Boat	157	1	167	\$15,900
Struck by Boat or Propeller	188	9	191	\$1,600
Fallen Skier	344	6	340	\$400
Other Casualty; Unknown	183	54	136	\$126,700

## FIVE YEAR SUMMARY OF BOATING ACCIDENTS

1990 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>6,411</b>	<b>865</b>	<b>3,822</b>	<b>\$23,808,700</b>
Grounding	390	14	240	\$2,123,400
Capsizing	545	289	259	\$1,073,700
Swamping/Flooding	252	60	55	\$920,800
Sinking	210	11	38	\$1,391,300
Fire or Explosion of Fuel	274	14	141	\$3,671,300
Other Fire or Explosion	97	2	22	\$3,252,900
Collision with Another Vessel	2,242	81	1,376	\$7,180,500
Collision with Fixed Object	864	76	545	\$2,959,600
Collision with Floating Object	269	13	100	\$834,000
Falls Overboard	451	239	260	\$90,600
Falls Within Boat	139	1	164	\$71,900
Struck by Boat or Propeller	183	7	180	\$7,100
Fallen Skier	324	8	321	\$0
Other Casualty; Unknown	171	50	121	\$231,600

1989 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>6,063</b>	<b>896</b>	<b>3,635</b>	<b>\$25,233,200</b>
Grounding	385	13	243	\$2,097,400
Capsizing	576	330	258	\$973,700
Swamping/Flooding	228	70	77	\$1,337,200
Sinking	219	31	54	\$1,168,800
Fire or Explosion of fuel	303	7	179	\$6,325,300
Other Fire or Explosion	60	6	11	\$2,049,400
Collision with Another Vessel	2,039	60	1,265	\$6,707,500
Collision with Fixed Object	797	60	509	\$2,665,000
Collision with Floating Object	296	8	116	\$1,284,900
Falls Overboard	428	217	252	\$103,400
Falls Within Boat	119	0	142	\$92,000
Struck by Boat or Propeller	65	6	60	\$3,900
Fallen Skier	343	9	337	\$14,000
Other Casualty; Unknown	205	79	132	\$410,700

1993	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
	6,335	800	3,559	\$20,220,500
1992	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
	6,048	816	3,683	\$34,766,700
1991	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
	6,573	924	3,967	\$24,772,300
1990	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
	6,411	865	3,822	\$23,808,700
1989	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
	6,063	896	3,635	\$25,233,200

# JURISDICTION OF BOATING ACCIDENTS BY STATE

This table includes statistics for only those accidents for which a determination of jurisdiction could be made from available information.

1993	ALL REPORTED ACCIDENTS		FATAL ACCIDENTS		FATALITIES		VESSELS INVOLVED	
	5,376		660		785		7,337	
	EXCLUSIVE STATE	JOINT FEDERAL-STATE	EXCLUSIVE STATE	JOINT FEDERAL-STATE	EXCLUSIVE STATE	JOINT FEDERAL-STATE	EXCLUSIVE STATE	JOINT FEDERAL-STATE
TOTALS	1,986	3,390	371	289	440	345	2,680	4,657
Alabama	29	94	5	14	6	17	38	133
Alaska	1	17	0	8	0	9	1	20
Arizona	21	229	4	6	5	6	24	363
Arkansas	16	27	11	0	18	0	17	36
California	269	266	28	26	31	33	407	382
Colorado	57	2	7	1	11	1	67	3
Connecticut	11	37	2	1	2	1	14	50
Delaware	4	7	0	0	0	0	6	8
Dist. of Col.	0	2	0	0	0	0	0	2
Florida	96	642	36	18	43	20	116	862
Georgia	19	54	4	7	5	7	25	68
Hawaii	1	18	0	3	0	3	1	20
Idaho	23	21	4	3	5	4	31	28
Illinois	64	50	19	9	22	10	82	64
Indiana	98	19	8	3	8	4	138	24
Iowa	24	16	4	0	5	0	31	20
Kansas	33	0	2	0	2	0	40	0
Kentucky	17	31	1	5	1	8	24	41
Louisiana	25	60	16	15	17	18	29	75
Maine	8	11	8	1	8	1	8	13
Maryland	67	157	4	10	4	11	74	196
Massachusetts	12	30	7	3	9	6	13	41
Michigan	174	162	15	17	17	23	256	221
Minnesota	77	21	13	2	15	3	104	28
Mississippi	28	25	13	4	15	6	36	32
Missouri	64	143	13	6	16	7	78	224
Montana	10	2	5	0	8	0	12	3
Nebraska	24	3	3	1	3	1	33	5
Nevada	3	126	0	3	0	3	3	186
New Hampshire	7	1	6	0	6	0	7	1
New Jersey	49	204	3	1	4	1	77	275
New Mexico	25	35	2	3	3	4	28	44
New York	59	139	17	9	17	9	77	194
North Carolina	86	65	17	7	21	8	114	89
North Dakota	3	2	1	0	1	0	4	4
Ohio	38	88	6	8	8	13	59	115
Oklahoma	60	37	6	8	6	8	77	48
Oregon	22	51	6	12	7	17	28	63
Pennsylvania	47	44	3	4	5	4	67	60
Rhode Island	3	6	0	2	0	2	5	8
South Carolina	27	65	12	13	16	13	34	87
South Dakota	6	5	1	0	4	0	6	8
Tennessee	12	63	4	8	4	9	16	90
Texas	86	26	23	11	27	12	115	34
Utah	23	66	2	4	2	5	34	95
Vermont	2	3	2	3	2	3	2	3
Virginia	62	59	9	4	11	4	81	83
Washington	24	94	6	14	6	16	34	125
West Virginia	7	9	2	3	2	4	10	14
Wisconsin	57	45	8	6	9	7	88	55
Wyoming	6	1	3	0	3	0	9	2
Guam	0	6	0	0	0	0	0	8
Puerto Rico	0	0	0	0	0	0	0	0
Virgin Islands	0	1	0	1	0	1	0	1
Am. Samoa	0	3	0	2	0	3	0	3
No. Marianas	0	0	0	0	0	0	0	0



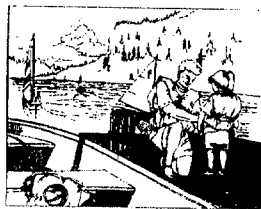
# **ACCIDENT DATA BY STATE**

1993	*NUMBER OF ACCIDENTS				*NUMBER OF VESSELS INVOLVED IN ACCIDENTS				NUMBER OF PERSONS		PROPERTY DAMAGE (\$)
	*These accidents fall into one category only, with fatal being the highest priority, followed by non-fatal injury, followed by property damage. For example, if two vessels are in an accident resulting in a fatality and a non-fatal injury, the accident is counted as a fatal accident involving two vessels. If two vessels are in an accident resulting in a non-fatal injury and property damage, the accident is counted as a non-fatal injury accident involving two vessels.										
	TOTAL	FATAL	NON-FATAL INJURY	PROPERTY DAMAGE	TOTAL	FATAL	NON-FATAL INJURY	PROPERTY DAMAGE	KILLED	INJURED	PROPERTY DAMAGE
TOTALS	6,335	674	2,612	3,049	8,689	731	3,547	4,411	800	3,559	20,220,500
Alabama	136	19	57	60	190	24	83	83	23	84	463,300
Alaska	18	8	4	6	21	8	6	7	9	9	49,100
Arkansas	55	12	24	19	70	13	33	24	19	36	86,600
Arizona	259	10	106	143	401	13	155	233	11	144	422,300
California	717	56	310	351	1057	62	457	538	67	382	1,835,800
Colorado	60	8	29	23	71	8	33	30	12	40	74,600
Connecticut	54	3	19	32	72	3	24	45	3	26	237,300
Delaware	11	0	6	5	14	0	9	5	0	7	18,200
Dist. of Col.	2	0	1	1	2	0	1	1	0	2	1,500
Florida	995	54	424	517	1349	61	557	731	63	562	4,591,300
Georgia	92	12	37	43	117	14	46	57	13	46	282,100
Hawaii	19	3	3	13	21	3	3	15	3	4	219,400
Idaho	50	7	20	23	65	7	26	32	9	28	258,000
Illinois	130	28	46	56	167	30	57	80	32	72	161,000
Indiana	119	11	61	47	165	12	84	69	12	75	264,900
Iowa	45	4	25	16	56	4	30	22	5	32	43,500
Kansas	39	4	18	17	48	5	21	22	4	37	44,300
Kentucky	56	6	23	27	77	6	34	37	9	36	121,300
Louisiana	122	32	59	31	155	33	80	42	36	95	274,800
Maine	45	9	8	28	57	9	11	37	9	14	929,700
Maryland	244	14	118	112	296	14	136	146	15	148	1,260,100
Massachusetts	62	10	11	41	81	10	16	55	15	16	291,700
Michigan	346	33	178	135	489	37	236	216	41	221	641,600
Minnesota	121	15	59	47	165	16	77	72	18	71	235,400
Mississippi	59	17	22	20	76	17	30	29	21	32	57,800
Missouri	216	19	87	110	313	21	116	176	23	121	637,100
Montana	25	5	5	15	33	5	8	20	8	7	18,900
Nebraska	34	4	18	12	49	4	28	17	4	24	69,600
Nevada	132	3	45	84	194	3	67	124	3	61	263,500
New Hampshire	49	6	28	15	59	6	33	20	6	37	45,800
New Jersey	253	4	98	151	352	4	135	213	5	127	547,400
New Mexico	64	5	27	32	77	5	31	41	7	33	122,200
New York	219	26	89	104	302	28	121	153	26	150	848,800
North Carolina	160	24	78	58	215	27	104	84	29	105	497,700
North Dakota	7	1	1	5	11	1	2	8	1	1	111,400
Ohio	136	14	40	82	187	16	59	112	21	65	862,300
Oklahoma	107	15	38	54	138	17	50	71	15	48	295,000
Oregon	76	18	13	45	95	18	17	60	24	30	254,200
Pennsylvania	92	7	44	41	128	7	65	56	9	61	346,200
Rhode Island	36	2	8	26	56	2	10	44	2	10	64,800
South Carolina	98	26	37	35	128	26	51	51	30	58	222,100
South Dakota	12	1	0	11	16	1	0	15	4	0	35,000
Tennessee	80	13	35	32	112	14	51	47	14	44	176,800
Texas	133	34	52	47	174	37	71	66	39	83	406,900
Utah	100	6	34	60	147	6	53	88	7	45	216,200
Vermont	5	5	0	0	5	5	0	0	5	1	0
Virginia	121	13	53	55	164	15	72	77	15	71	296,900
Washington	155	20	44	91	212	21	61	130	22	56	696,900
West Virginia	19	5	6	8	30	7	10	13	6	17	62,300
Wisconsin	133	17	59	57	187	19	80	88	19	75	183,500
Wyoming	7	3	1	3	11	4	1	6	3	4	18,600
Guam	6	0	4	2	8	0	6	2	0	6	26,800
Puerto Rico	0	0	0	0	0	0	0	0	0	0	0
Virgin Islands	1	1	0	0	1	1	0	0	1	0	0
Amer. Samoa	3	2	0	1	3	2	0	1	3	0	28,000
No. Marianas	0	0	0	0	0	0	0	0	0	0	0

# **TYPES OF ACCIDENTS BY STATE**

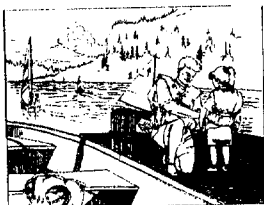
1993	NUMBER OF VESSELS INVOLVED IN ACCIDENTS															VICTIMS		
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	COLLISION WITH ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	FLOATING OBJECT	FALLS OVERBOARD	FALLS WITHIN BOAT	STRUCK BY BOAT OR PROPELLER	FALLEN SKIER	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	INJURIES
TOTALS	8,689	363	453	415	139	207	98	4,733	789	203	498	169	183	271	168	667	133	3,559
Alabama	190	0	8	8	7	6	2	108	18	10	10	2	2	5	4	16	7	84
Alaska	21	0	6	2	0	1	0	9	1	1	1	0	0	0	0	9	0	9
Arizona	401	17	12	13	18	4	2	277	10	3	6	3	16	15	5	7	4	144
Arkansas	70	0	5	9	2	1	0	30	9	2	8	0	2	2	0	18	1	36
California	1,057	47	29	43	23	17	3	687	54	13	40	12	16	46	27	52	15	382
Colorado	71	4	8	8	0	3	1	21	7	0	3	1	2	11	3	10	2	40
Connecticut	72	5	1	3	0	2	1	36	11	2	4	2	1	1	3	3	0	26
Delaware	14	0	0	2	1	1	0	6	3	0	0	0	0	0	0	0	0	7
Dist. of Col.	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Florida	1,349	53	54	75	7	32	14	698	208	24	72	41	34	22	15	47	16	562
Georgia	117	2	6	7	3	4	1	50	16	4	14	3	4	2	1	10	3	46
Hawaii	21	4	6	5	1	0	1	4	0	0	0	0	0	0	0	3	0	4
Idaho	65	4	2	5	1	1	3	30	7	3	2	0	2	4	1	8	1	28
Illinois	167	4	19	5	6	3	1	76	21	8	13	3	4	7	4	28	4	72
Indiana	165	4	5	6	3	7	0	93	12	4	14	4	4	1	8	8	4	75
Iowa	56	0	8	1	1	2	0	21	4	2	5	2	1	6	3	5	0	32
Kansas	48	0	6	4	4	2	2	18	2	1	2	2	2	1	2	4	0	37
Kentucky	77	1	1	5	2	5	0	46	7	5	2	2	2	0	0	9	0	36
Louisiana	155	5	12	6	2	1	2	70	22	9	16	2	2	3	3	25	11	95
Maine	57	8	8	2	0	1	2	24	3	5	3	0	0	1	0	8	1	14
Maryland	296	11	19	7	6	8	15	113	28	11	19	16	7	27	9	15	0	148
Massachusetts	81	10	4	3	2	0	0	37	14	4	3	0	1	0	3	13	2	16
Michigan	489	13	27	14	5	11	3	285	35	5	37	17	5	20	12	36	5	221
Minnesota	165	3	9	3	2	4	5	89	15	2	12	2	2	11	6	16	2	71
Mississippi	76	2	9	7	0	2	0	32	4	1	9	0	2	7	1	15	6	32
Missouri	313	9	8	20	1	4	2	194	22	6	17	6	4	15	5	20	3	121
Montana	33	3	4	2	0	0	0	16	4	0	2	0	2	0	0	8	0	7
Nebraska	49	2	4	2	0	1	0	30	2	1	4	1	0	2	0	4	0	24
Nevada	194	8	2	16	8	5	2	125	7	0	6	1	6	2	6	1	2	61
New Hampshire	59	3	3	1	0	0	0	20	3	2	5	8	1	9	4	5	1	37
New Jersey	352	28	7	21	6	10	4	197	34	13	9	6	4	3	10	5	0	127
New Mexico	77	4	13	7	0	4	1	26	6	0	7	4	1	4	0	7	0	33
New York	302	21	18	9	5	7	4	164	26	8	18	7	10	1	4	23	3	150
North Carolina	215	4	16	7	3	5	3	113	24	4	17	6	6	0	0	19	10	105
North Dakota	11	0	1	0	0	1	0	8	0	0	1	0	0	0	0	0	1	1
Ohio	187	11	11	12	2	6	7	104	16	6	5	3	1	2	1	17	4	65
Oklahoma	138	4	10	15	0	6	3	62	14	3	10	1	4	3	3	12	3	48
Oregon	95	6	15	5	0	3	0	40	8	5	8	0	3	0	2	22	2	30
Pennsylvania	128	1	4	8	1	6	3	77	7	2	7	4	3	3	2	8	1	61
Rhode Island	56	2	2	2	1	1	0	38	1	1	2	0	3	1	2	2	0	10
South Carolina	128	6	7	4	0	3	0	61	18	4	17	1	3	1	3	26	4	58
South Dakota	16	1	1	2	0	0	0	9	2	0	0	0	0	0	1	4	0	0
Tennessee	112	3	3	2	5	3	0	65	6	7	7	0	4	2	5	12	2	44
Texas	174	5	17	13	2	4	2	81	15	3	16	3	7	3	3	34	5	83
Utah	147	13	7	8	2	3	1	94	8	2	3	0	1	4	1	7	0	45
Vermont	5	0	2	1	0	0	0	0	0	0	2	0	0	0	0	5	0	1
Virginia	164	6	10	4	2	6	3	86	18	4	12	2	3	8	0	13	2	71
Washington	212	13	15	6	4	5	2	120	16	8	11	2	2	4	4	20	2	56
West Virginia	30	0	2	0	0	2	1	23	1	0	0	1	0	0	0	5	1	17
Wisconsin	187	9	6	4	0	4	0	107	18	5	15	1	3	7	7	18	1	75
Wyoming	11	2	0	0	0	0	0	8	1	0	0	0	0	0	0	2	1	4
Guam	8	1	0	0	0	0	0	5	1	0	0	0	0	1	0	0	0	6
Puerto Rico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Virgin Islands	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Am. Samoa	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
No. Marianas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns.



# **FIVE YEAR SUMMARY OF SELECTED ACCIDENT DATA BY STATE 1989 - 1993**

	TOTAL NUMBER OF ACCIDENTS					FATAL ACCIDENTS					FATALITIES				
	1989	1990	1991	1992	1993	1989	1990	1991	1992	1993	1989	1990	1991	1992	1993
<b>TOTALS</b>	<b>6,063</b>	<b>6,411</b>	<b>6,573</b>	<b>6,048</b>	<b>6,335</b>	<b>764</b>	<b>738</b>	<b>779</b>	<b>693</b>	<b>674</b>	<b>896</b>	<b>865</b>	<b>924</b>	<b>816</b>	<b>800</b>
Alabama	103	157	126	162	136	14	22	20	24	19	15	26	20	29	23
Alaska	42	35	34	44	18	29	18	21	9	8	37	21	29	13	9
Arizona	133	138	145	180	259	5	2	4	5	10	6	2	5	6	11
Arkansas	59	45	69	74	55	17	12	21	17	12	18	14	25	20	19
California	632	761	750	689	717	31	40	46	47	56	43	50	58	59	67
Colorado	63	59	67	51	60	8	6	8	4	8	10	8	10	4	12
Connecticut	34	97	72	53	54	4	10	10	1	3	5	11	11	1	3
Delaware	25	24	19	20	11	2	1	1	0	0	2	1	2	0	0
Dist. of Col.	0	2	3	2	2	0	1	0	1	0	0	1	0	1	0
Florida	899	918	1,019	930	995	56	72	76	67	54	65	88	93	75	63
Georgia	104	90	110	87	92	18	15	22	18	12	21	17	24	22	13
Hawaii	40	21	19	21	19	1	2	4	2	3	1	3	5	3	3
Idaho	45	54	70	49	50	14	7	9	4	7	16	7	9	4	9
Illinois	83	124	159	146	130	14	21	28	26	28	17	24	32	29	32
Indiana	111	108	133	91	119	13	8	10	9	11	16	9	12	9	12
Iowa	28	32	49	43	45	4	8	8	7	4	4	8	13	10	5
Kansas	36	28	30	38	39	6	4	4	7	4	6	4	6	7	4
Kentucky	58	77	61	73	56	10	22	18	10	6	12	23	22	22	9
Louisiana	134	109	87	95	122	39	32	31	18	32	49	38	32	19	36
Maine	39	65	51	52	45	18	9	5	13	9	20	9	5	13	9
Maryland	173	188	185	131	244	21	15	24	11	14	25	15	26	13	15
Massachusetts	92	102	38	29	62	15	22	3	6	10	17	26	3	7	15
Michigan	315	322	357	306	346	30	28	38	29	33	34	32	56	38	41
Minnesota	162	147	162	144	121	15	15	16	20	15	16	17	17	22	18
Mississippi	57	72	62	64	59	13	22	26	21	17	17	23	30	21	21
Missouri	208	211	203	214	228	21	12	14	14	19	21	13	15	18	23
Montana	21	22	17	23	25	9	3	4	5	5	9	4	5	5	8
Nebraska	28	28	29	21	34	2	1	3	2	4	2	2	3	4	4
Nevada	89	121	129	123	132	4	4	3	0	3	7	4	4	0	3
New Hampshire	56	49	43	51	49	10	7	5	8	6	10	8	7	9	6
New Jersey	305	311	241	197	253	23	9	5	5	4	26	9	8	7	5
New Mexico	26	21	30	27	64	0	2	1	2	5	0	2	1	2	7
New York	284	295	257	222	219	25	24	20	30	26	33	26	22	36	26
North Carolina	152	123	137	135	160	24	29	23	20	24	25	33	27	22	29
North Dakota	7	3	12	9	7	1	0	2	1	1	1	0	2	1	1
Ohio	170	124	168	156	136	16	17	17	26	14	19	24	19	32	21
Oklahoma	50	72	87	103	107	12	12	16	14	15	13	15	18	16	15
Oregon	75	99	106	89	76	16	6	19	8	18	16	7	22	9	24
Pennsylvania	88	109	110	117	92	10	20	14	16	7	12	27	16	17	9
Rhode Island	57	30	3	21	36	7	3	2	4	2	9	4	2	4	2
South Carolina	79	105	85	109	98	26	26	29	23	26	31	32	35	27	30
South Dakota	19	12	25	11	12	4	1	1	3	1	5	1	2	4	4
Tennessee	67	76	84	74	80	22	20	18	11	13	25	26	20	11	14
Texas	249	218	227	209	133	67	43	56	58	34	78	51	61	71	39
Utah	71	82	83	103	100	1	3	2	0	6	1	4	2	0	7
Vermont	3	3	4	15	5	3	3	2	1	5	3	5	2	3	5
Virginia	118	134	106	114	121	26	21	18	12	13	26	24	20	13	15
Washington	141	163	188	162	155	17	30	25	27	20	21	36	30	30	22
West Virginia	24	18	21	13	19	8	3	5	3	5	10	3	5	3	6
Wisconsin	187	179	208	143	133	16	17	18	20	17	19	19	23	23	19
Wyoming	3	9	10	4	7	2	2	0	0	3	2	2	0	0	3
Guam	0	2	3	0	6	0	0	1	0	0	0	0	2	0	0
Puerto Rico	20	13	6	5	0	4	3	0	1	0	8	4	0	1	0
Virgin Islands	0	13	17	0	1	0	1	3	0	1	0	1	3	0	1
Am. Samoa	0	0	1	4	3	0	0	0	1	2	0	0	0	1	3
N. Marianas	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0



## TYPES OF BOATING ACCIDENTS - 1993

	VESSELS INVOLVED	DROWNING DEATHS	OTHER DEATHS	TOTAL FATALITIES
<b>TOTALS</b>	<b>8,689</b>	<b>667</b>	<b>133</b>	<b>800</b>
Grounding	363	13	4	17
Capsizing	453	232	7	239
Swamping/Flooding	415	84	6	90
Sinking	139	29	0	29
Fire/Explosion (fuel)	207	5	0	5
Fire/Explosion (other)	98	0	0	0
Collision with another vessel	4,733	27	51	78
Collision with fixed object	789	28	19	47
Collision with floating object	203	17	7	24
Fallen Skier	271	1	6	7
Falls overboard	498	193	15	208
Falls within boat	169	1	1	2
Struck by boat or propeller	183	1	9	10
Other	136	6	8	14
Unknown	32	30	0	30

## TYPES OF ACCIDENTS BY TYPE OF VESSEL

1993	NUMBER OF VESSELS INVOLVED IN ACCIDENTS															VICTIMS		
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	COLLISION WITH ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	FALLS OVERBOARD	FALLS WITHIN BOAT	STRUCK BY BOAT OR PROPELLER	FALLEN SKIER	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	INJURIES
<b>TOTALS</b>	<b>8,689</b>	<b>363</b>	<b>453</b>	<b>415</b>	<b>139</b>	<b>207</b>	<b>98</b>	<b>4,733</b>	<b>789</b>	<b>203</b>	<b>498</b>	<b>169</b>	<b>183</b>	<b>271</b>	<b>168</b>	<b>667</b>	<b>133</b>	<b>3,559</b>
Open motorboat	3,290	164	230	317	83	91	19	1,269	353	97	246	61	72	208	80	332	75	1,578
Cabin motorboat	1,396	111	20	50	10	82	55	646	190	62	45	46	26	27	26	60	19	547
Auxiliary Sail	354	32	4	2	3	8	15	203	53	2	7	8	2	1	14	10	0	58
Sail Only	110	4	20	5	4	1	0	55	10	1	5	1	1	0	3	6	1	33
Rowboat	80	0	35	8	1	0	0	11	4	1	20	0	0	0	0	58	1	19
Canoe/Kayak	141	0	84	4	2	0	0	10	21	6	12	0	2	0	0	89	2	77
Inflatable	53	1	16	1	2	0	0	5	7	2	14	1	1	0	3	31	2	35
Houseboat	98	3	2	5	1	6	2	64	4	0	4	1	5	0	1	3	1	18
Unknown	582	10	17	11	12	4	3	445	11	5	24	7	7	10	16	49	6	109
PWC <sup>3</sup>	2,236	25	8	1	5	6	2	1,876	107	18	86	33	51	4	14	9	26	915
Other	349	13	17	11	16	9	2	149	29	9	35	11	16	21	11	20	0	170

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns. <sup>3</sup> Personal watercraft

# **TYPES OF ACCIDENTS BY LENGTH OF VESSEL - 1993**

	NUMBER OF VESSELS INVOLVED IN ACCIDENTS																VICTIMS		
	TOTAL ACCIDENTS	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	COLLISION WITH ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	FALLS OVERBOARD	FALLS WITHIN BOAT	STRUCK BY BOAT OR PROPELLER	FALLEN SKIER	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	INJURIES
TOTALS	6,335	8,689	363	453	415	139	207	98	4,733	789	203	498	169	183	271	168	667	133	3,559
<5 ft	0	13	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0
5 ft	7	9	0	0	0	0	0	0	5	1	0	0	0	2	0	1	0	0	7
6 ft	38	50	1	2	0	0	0	0	33	2	1	7	1	3	0	0	2	0	29
7 ft	179	289	5	1	1	1	1	0	232	9	4	22	6	5	1	1	1	3	141
8 ft	303	448	9	10	1	2	1	0	336	27	5	29	6	17	1	4	13	4	216
9 ft	451	720	5	7	1	2	4	0	599	45	7	18	12	15	0	5	9	6	290
10 ft	213	326	3	17	5	3	0	0	247	21	2	13	6	6	1	2	29	7	127
11 ft	29	35	3	1	2	2	0	0	15	6	0	3	0	0	1	2	3	0	20
12 ft	136	148	1	49	18	4	0	0	24	9	8	25	3	3	0	4	85	0	67
13 ft	73	79	3	20	2	0	1	0	25	5	2	13	1	1	2	4	23	1	40
14 ft	308	344	2	70	65	16	4	2	80	28	10	46	3	6	4	8	114	6	173
15 ft	284	327	13	40	60	13	6	3	95	38	8	28	2	6	11	4	43	13	160
16 ft	463	549	19	54	52	20	11	1	199	60	13	42	10	13	39	16	63	15	275
17 ft	484	574	28	39	47	11	22	3	223	68	17	39	11	16	39	11	44	13	308
18 ft	473	589	29	22	38	16	30	7	241	75	15	42	12	18	36	8	26	19	287
19 ft	434	523	41	19	19	12	9	6	236	47	23	19	14	10	52	16	17	10	238
20 ft	351	435	28	10	18	6	11	6	201	47	13	19	16	12	34	14	16	4	215
21 ft	204	263	18	6	7	2	13	0	137	29	12	10	9	4	14	2	8	2	126
22 ft	139	168	11	7	11	3	11	3	70	20	6	6	5	2	6	7	1	4	68
23 ft	111	135	11	0	7	3	7	2	61	14	6	6	5	3	5	5	4	0	62
24 ft	158	197	11	5	7	3	11	1	92	25	6	20	4	4	5	3	12	2	73
25 ft	111	136	15	4	3	1	11	2	65	18	1	4	3	3	1	5	3	0	58
26 ft	95	115	3	3	5	2	8	3	55	18	5	5	2	1	1	4	5	5	33
27 ft	66	84	7	1	2	1	1	6	36	13	5	4	6	0	0	2	1	0	45
28 ft	73	90	7	1	3	2	6	1	37	8	3	10	7	1	0	4	7	1	33
29 ft	36	38	3	0	1	1	1	6	13	9	2	2	0	0	0	0	2	0	13
30 ft	61	80	13	0	3	0	3	4	38	9	5	2	1	1	0	1	2	0	15
31 ft	41	48	6	0	2	1	2	1	25	6	2	0	0	0	0	1	2	0	20
32 ft	46	61	7	1	1	1	1	4	30	11	0	2	3	2	0	0	5	1	21
33 ft	34	39	2	0	1	0	4	3	15	9	1	0	4	0	0	0	6	1	13
34 ft	44	58	2	0	2	0	6	4	31	8	3	2	0	0	0	0	1	0	8
35 ft	30	44	4	0	1	0	1	0	26	8	0	0	1	1	0	2	2	2	3
36 ft	32	40	3	0	1	1	3	3	21	2	0	1	2	0	0	3	0	0	10
37 ft	34	39	2	0	0	0	2	3	22	6	2	1	0	1	0	0	0	0	12
38 ft	35	43	2	0	0	0	0	5	24	6	2	2	0	0	1	1	0	0	7
39 ft	16	22	5	0	0	0	0	1	13	2	0	0	0	0	0	0	0	0	0
40 ft	35	47	4	0	1	0	2	4	25	7	1	0	3	0	0	0	1	0	13
41 ft	22	28	2	0	0	0	2	1	17	4	1	0	0	0	0	1	0	0	2
42 ft	39	48	7	0	1	1	1	0	20	11	1	3	1	1	0	1	1	0	6
43 ft	12	15	2	0	0	0	1	0	8	2	0	1	0	0	0	1	0	0	3
44 ft	17	22	2	1	0	0	1	1	13	3	0	0	1	0	0	0	0	0	9
45 ft	6	7	1	0	0	0	1	1	3	0	0	1	0	0	0	0	1	0	1
46 - 65 ft	117	168	9	0	4	1	4	8	108	18	1	2	0	0	0	0	1	0	19
> 65 ft	27	38	3	1	1	1	0	0	27	3	1	0	0	0	0	4	0	1	6
Unknown	468	1,158	11	62	22	7	4	3	897	32	9	49	7	19	17	19	112	12	287

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns.

## TYPES OF ACCIDENTS BY TYPE OF PROPULSION

1993	NUMBER OF VESSELS INVOLVED IN ACCIDENTS															VICTIMS		
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	COLLISION WITH ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	FALLS OVERBOARD	FALLS WITHIN BOAT	STRUCK BY BOAT OR PROPELLER	FALLEN SKIER	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	INJURIES
<b>TOTALS</b>	<b>8,689</b>	<b>363</b>	<b>453</b>	<b>415</b>	<b>139</b>	<b>207</b>	<b>98</b>	<b>4,733</b>	<b>789</b>	<b>203</b>	<b>498</b>	<b>169</b>	<b>183</b>	<b>271</b>	<b>168</b>	<b>667</b>	<b>133</b>	<b>3,559</b>
Outboard	2,643	96	233	282	65	37	14	1,054	291	71	232	48	49	107	64	334	57	1,232
Gas Inboard	1,067	93	12	41	11	54	41	484	142	31	41	17	19	55	26	34	10	364
Diesel Inboard	258	28	2	2	3	9	14	130	31	5	8	4	5	5	12	6	0	61
I/O <sup>3</sup>	1,360	102	17	41	21	90	25	564	157	56	54	57	50	93	33	28	24	673
Jet	2,347	34	11	20	18	11	3	1,927	112	19	90	34	50	5	13	9	31	947
Sail	88	0	17	4	4	0	0	43	9	1	5	1	1	0	3	6	1	31
Manual	269	1	134	14	6	0	0	29	29	12	39	1	1	0	3	185	5	117
Other	30	1	8	1	1	0	0	6	3	1	4	1	2	1	1	10	0	18
Unknown	627	8	19	10	10	6	1	496	15	7	25	6	6	5	13	55	5	116

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns. <sup>3</sup> Inboard/outboard

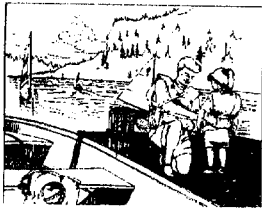
## REPORTING OF ALCOHOL INVOLVEMENT

Alcohol involvement in a boating accident includes any accident in which alcoholic beverages are consumed in the boat and the investigating official has determined that the operator was impaired or affected while operating the boat. In most cases, there is not enough data available to provide the level of impairment. Higher accident figures for some States may be an indication of better reporting in those States than a more serious problem of alcohol involvement in boating accidents.

Historically, the reporting of alcohol involvement in recreational boating accidents has been lower than expected. Beginning in 1987 the recommended Boating Accident Report (BAR) form contained a block for indicating the involvement of alcohol. Obviously operators are not motivated to report themselves as having had alcohol before a boating accident occurred. Many BAR's are filed by law enforcement officials, who should not have failed to report the involvement of alcohol.

A study of fatalities in four States (California, Maryland, New Jersey, and North Carolina) showed that 51% of the fatalities had a BAC (Blood Alcohol Content) of .04 or more. BAC's of .10 or more were found in 31% of the fatalities. These States were chosen because they already collected BAC information for a significant number of fatalities.

The table on page 33 shows alcohol involvement reporting for the last four years. These statistics include all victims in an alcohol-related accident, even if the victim, or operator of the boat carrying the victim, did not use alcohol.



## ALCOHOL INVOLVEMENT IN BOATING ACCIDENTS 1990- 1993

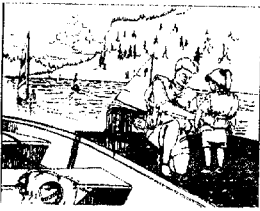
	FATALITIES				INJURIES				BOATING ACCIDENT REPORTS WITH ALCOHOL INVOLVED			
	1990	1991	1992	1993	1990	1991	1992	1993	1990	1991	1992	1993
<b>TOTAL</b>	<b>134</b>	<b>179</b>	<b>166</b>	<b>160</b>	<b>549</b>	<b>424</b>	<b>311</b>	<b>221</b>	<b>568</b>	<b>513</b>	<b>504</b>	<b>381</b>
Alabama	6	1	3	7	8	4	9	6	12	6	9	13
Alaska	3	11	0	3	0	0	0	2	3	8	0	3
Arizona	2	3	3	1	6	14	13	3	5	11	21	11
Arkansas	2	3	3	1	1	3	12	0	6	6	13	2
California	2	7	6	8	15	12	9	11	18	23	30	27
Colorado	5	2	2	4	6	2	1	0	5	4	3	3
Connecticut	2	4	0	1	4	2	2	3	8	7	1	2
Delaware	0	0	0	0	4	0	0	1	1	0	2	1
Dist. of Columbia	1	0	0	0	0	0	0	0	1	0	1	0
Florida	27	12	21	19	125	71	52	48	135	85	72	56
Georgia	2	1	1	0	11	6	4	2	10	7	8	5
Hawaii	0	0	0	0	0	0	0	0	0	0	0	0
Idaho	1	1	1	1	0	7	5	1	2	7	7	4
Illinois	8	9	8	11	37	23	14	8	21	15	20	19
Indiana	3	6	2	3	13	10	4	3	22	16	12	7
Iowa	2	5	0	0	1	5	0	0	2	6	6	0
Kansas	0	0	2	0	1	0	3	0	3	0	7	0
Kentucky	1	1	14	3	3	7	4	1	4	5	8	4
Louisiana	6	12	1	4	11	14	4	6	8	18	4	7
Maine	0	1	0	1	1	1	2	0	1	2	2	1
Maryland	3	5	2	7	8	2	1	8	6	8	6	14
Massachusetts	2	2	3	0	11	0	3	0	5	2	3	0
Michigan	8	3	8	5	37	10	9	8	48	21	18	12
Minnesota	2	6	8	10	42	25	12	10	39	29	28	18
Mississippi	3	6	3	3	7	2	7	3	6	5	8	6
Missouri	4	2	3	10	29	15	40	18	23	17	44	22
Montana	0	0	2	2	3	2	0	0	1	2	2	2
Nebraska	0	1	0	1	2	2	0	0	2	2	0	1
Nevada	1	0	0	0	9	6	3	2	10	9	6	3
New Hampshire	0	5	1	1	0	6	1	0	1	5	3	1
New Jersey	0	3	2	0	7	16	19	6	11	8	15	6
New Mexico	0	0	0	2	3	0	0	1	1	3	0	5
New York	5	5	8	4	35	27	19	23	24	20	20	22
North Carolina	4	7	8	5	16	13	7	8	15	21	19	12
North Dakota	0	0	1	1	0	0	0	0	0	0	1	1
Ohio	5	4	14	5	9	21	9	4	10	21	20	5
Oklahoma	0	2	6	2	1	20	3	2	3	11	8	7
Oregon	0	4	0	5	7	7	3	0	8	6	5	5
Pennsylvania	3	10	7	3	9	15	3	1	9	13	11	5
Rhode Island	1	0	1	0	0	0	1	0	2	0	2	0
South Carolina	1	2	0	5	7	4	2	9	4	5	4	13
South Dakota	0	2	0	4	0	5	0	0	1	4	0	1
Tennessee	2	7	2	2	0	2	1	1	4	9	2	3
Texas	2	2	3	1	11	0	0	1	7	3	7	4
Utah	0	1	0	0	4	5	2	1	2	5	3	3
Vermont	2	1	0	0	0	2	1	0	1	1	1	0
Virginia	3	9	5	2	12	7	6	5	13	13	8	13
Washington	10	6	6	5	7	14	8	9	21	18	11	14
West Virginia	0	2	1	1	1	2	5	2	3	5	2	3
Wisconsin	2	5	7	7	25	13	8	4	21	20	21	15
Wyoming	0	0	0	0	0	0	0	0	3	0	0	0
Guam	0	0	0	0	0	0	0	0	0	0	0	0
Puerto Rico	3	0	0	0	0	0	0	0	1	0	0	0
Virgin Islands	0	1	0	0	0	0	0	0	0	1	0	0
Am. Samoa	0	0	0	0	0	0	0	0	0	0	0	0
Northern Marianas	0	0	0	0	0	0	0	0	0	0	0	0



## CAUSES OF BOATING ACCIDENTS - 1993

	VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>	<b>8,689</b>	<b>800</b>
<b>LOADING OF PASSENGERS OR GEAR</b>		
Overloading	83	63
Improper weight distribution	63	28
Sitting on gunwale, transom, bow, or back of seat	28	5
Movement of passengers	26	14
Hoisting or lowering of anchor	6	0
Leaning over edge of boat, moving or standing	62	46
<b>FREE WATER IN BOAT</b>		
Water entered over gunwale, bow or transom	92	10
Water entered through hull	92	6
<b>EQUIPMENT</b>		
Fuel system	60	5
Electrical system	43	0
Auxiliary power or heat equipment	11	0
Steering, throttle, or other non-power equipment	249	5
Improper navigation lights	51	4
Starting in gear	7	2
<b>OPERATION OF VESSEL</b>		
High speed maneuver	69	9
Improper lookout	1,154	33
View obstructed	67	3
Inattention or carelessness	1,281	114
Other violation of the Rules of the Road	223	6
Speeding	536	27
Navigational error	29	1
Strong current, rough waters	582	147
<b>ENVIRONMENT</b>		
Wake or wave striking vessel	339	23
Slippery surface or deck	21	2
Poor visibility	51	2
Submerged object	297	18
<b>OTHER VESSEL AT FAULT</b>	1,765	25
<b>IGNITION OF SPILLED FUEL OR VAPOR</b>	57	0
<b>OTHER</b>	1,032	81
<b>UNKNOWN</b>	313	121





## OPERATION AT TIME OF ACCIDENTS - 1993

	VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>	<b>8,689</b>	<b>800</b>
Cruising	4,153	261
Cruising, fishing	82	13
Cruising, hunting	5	1
Cruising, sailing	40	5
Maneuvering	1,132	40
Maneuvering, docking	90	0
Maneuvering, leaving dock	46	1
Maneuvering, mooring	2	0
Maneuvering, for towing	2	0
Waterskiing	624	20
Waterskiing, maneuvering with skier down	19	0
Racing	41	2
Towing	48	2
Being towed	50	4
Drifting	743	164
Drifting, fishing	286	134
Drifting, hunting	7	6
Drifting, diving or swimming	5	0
Drifting, fueling	5	1
At anchor	260	32
At anchor, fishing	48	12
At anchor, hunting	0	0
At anchor, diving or swimming	9	0
At anchor, fueling	4	0
Tied to dock	580	12
Tied to dock, fueling	14	0
Other	110	2
Unknown	284	88

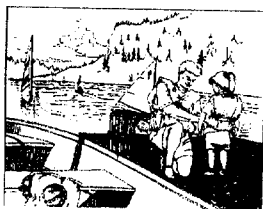


## OPERATOR INFORMATION - 1993

		VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>		<b>8,689</b>	<b>800</b>
<b>AGE OF OPERATOR</b>	Under 12 years	73	4
	12 to 18 years	834	44
	19 to 25 years	1,171	80
	26 to 50 years	4,245	378
	Over 50 years	1,110	161
	Unknown	879	133
	No Operator	377	0
<b>OPERATOR'S EXPERIENCE</b>	Less than 20 hours	1,433	102
	20 to 100 hours	1,377	97
	100 to 500 hours	1,487	124
	Over 500 hours	2,087	110
	Unknown	1,929	367
	No Operator	376	0
<b>NUMBER OF PERSONS ON BOARD</b>	None	440	1
	One	2,593	171
	Two	2,209	267
	Three	968	129
	Four	812	92
	Five	380	41
	Six	281	29
	Seven	128	8
	Eight	70	7
	Nine	35	12
	Ten	18	1
	More than 10	50	3
	Unknown	705	39
<b>FORMAL INSTRUCTION OF OPERATOR <sup>1</sup></b>	USCG Auxillary	671	11
	US Power Squadrons	355	3
	American Red Cross	136	4
	State	267	12
	Other	734	56
	None	3,917	319
	Unknown	2,221	395
	No Operator	388	0
<b>FAULT OF OPERATOR <sup>2</sup></b>	Did contribute	4,649	495
	Did not contribute	3,608	151
	Not determined	432	154

<sup>1</sup> Formal instruction of operator implies that some education has been received, but not necessarily that a course was successfully completed.

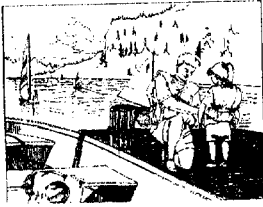
<sup>2</sup> Operator fault is largely a subjective judgement. If at any point in the chain of events leading up to an accident, the operator, by action or inaction contributes to the casualty, then the accident is coded, "Fault of Operator Did Contribute." If an accident occurs because of factors outside the control of the operator, then the accident is coded, "Fault of Operator Did Not Contribute."



## WEATHER AND WATER CONDITIONS - 1993

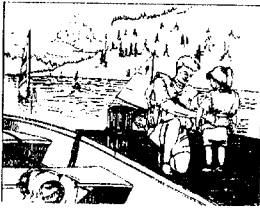
		VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>		<b>8,689</b>	<b>800</b>
<b>TYPE OF BODY OF WATER</b>	Ocean/Gulf	448	36
	Great Lakes (not tributaries)	167	23
	Bays, inlets, sounds, harbors, Intracoastal waterways	1,424	92
	Rivers, streams, creeks	2,149	255
	Lakes, ponds, reservoirs, dams, gravel pits	4,238	382
	Other	122	7
	Unknown	141	5
<b>WATER CONDITIONS</b>	Calm	4,544	330
	Choppy	2,646	141
	Rough	670	73
	Very rough	220	44
	Strong current	359	110
	Unknown	250	102
<b>WIND</b>	None	1,222	105
	Light (0 - 6 mph)	4,382	316
	Moderate (7 - 14 mph)	2,004	137
	Strong (15 - 25 mph)	584	80
	Storm (over 25 mph)	168	25
	Unknown	329	137
<b>VISIBILITY<sup>1</sup></b>	Good - Day	7,157	506
	Fair - Day	292	37
	Poor - Day	117	17
	Dark	905	140
	Unknown	218	100
<b>WATER TEMPERATURE</b>	Below 30 degrees F	12	4
	30 - 39 degrees F	39	23
	40 - 49 degrees F	198	75
	50 - 59 degrees F	639	107
	60 - 69 degrees F	1,634	143
	70 - 79 degrees F	2,855	124
	80 - 89 degrees F	1,435	78
	90 degrees F and above	70	7
	Unknown	1,807	239

<sup>1</sup> Accidents are now coded "dark" when they occur at night even if the visibility is reported "good," "fair," or "poor."



# MISCELLANEOUS DATA - 1993

		VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>		<b>8,689</b>	<b>800</b>
<b>TIME OF DAY</b>	Midnight to 2:30 am	184	28
	2:30 am to 4:30 am	74	15
	4:30 am to 6:30 am	78	18
	6:30 am to 8:30 am	207	21
	8:30 am to 10:30 am	406	39
	10:30 am to 12:30 pm	927	75
	12:30 pm to 2:30 pm	1,522	81
	2:30 pm to 4:30 pm	1,939	131
	4:30 pm to 6:30 pm	1,548	117
	6:30 pm to 8:30 pm	871	94
	8:30 pm to 10:30 pm	356	38
	10:30 pm to midnight	304	32
	Unknown	273	111
<b>MONTH OF YEAR</b>	January	123	20
	February	104	25
	March	201	45
	April	462	76
	May	1,159	112
	June	1,358	110
	July	2,229	147
	August	1,647	94
	September	792	58
	October	346	62
	November	154	24
	December	114	27
<b>DAY OF WEEK</b>	Sunday	2,636	183
	Monday	762	60
	Tuesday	571	65
	Wednesday	596	72
	Thursday	656	85
	Friday	885	121
	Saturday	2,583	214
<b>RENTED</b>	Boat was rented	899	34
	Boat was not rented	6,887	675
	Unknown	903	91



## VESSEL INFORMATION - 1993

		VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>		<b>8,689</b>	<b>800</b>
<b>TYPE OF BOAT</b>	Open motorboat	3,290	407
	Cabin motorboat	1,396	79
	Auxiliary sailboat	354	10
	Sailboat only	110	7
	Rowboat	80	59
	Canoe or kayak	141	91
	Inflatable boat	53	33
	Houseboat	98	4
	Personal Watercraft	2,236	35
	Other	349	20
	Unknown	582	55
<b>HULL MATERIAL</b>	Wood	226	28
	Aluminum	854	252
	Steel	78	2
	Fiberglass	6,849	388
	Rubber, vinyl, canvas	61	35
	Other	22	2
	Unknown	599	93
<b>PROPULSION</b>	Outboard	2,643	391
	Inboard gasoline	1,067	44
	Inboard diesel	258	6
	Inboard-outboard	1,360	52
	Jet	2,347	40
	Sail	88	7
	Manual (oars, paddle)	269	190
	Other	30	10
<b>HORSEPOWER</b>	Unknown	627	60
	No engine	340	185
	10 hp or less	242	69
	11-25 hp	293	61
	26-75 hp	1,873	111
	Over 75 hp	3,479	153
	Unknown	2,462	221
<b>YEAR BUILT</b>	1993	1,065	33
	1992	820	28
	1990-1991	902	34
	1988-1989	982	52
	1985-1987	886	50
	1980-1984	666	56
	Prior to 1980	2,070	234
	Unknown	1,298	313
<b>LENGTH</b>	Less than 16 feet	2,788	362
	16 feet to less than 26 feet	3,569	263
	26 feet to less than 40 feet	801	45
	40 feet to not more than 65 feet	323	5
	More than 65 feet	50	1
	Unknown	1,158	124

## **THE COAST GUARD RECREATIONAL BOATING SAFETY PROGRAM**

### **The Coast Guard Recreational Boating Safety Mission:**

To minimize the loss of life, personal injury, property damage and environmental impact associated with the use of recreational boats, through preventive means, in order to maximize safe use and enjoyment of U.S. waterways by the public.

### **Recreational Boating Safety Program Goals**

- (1) Improve the demonstrated knowledge, skills, abilities and attitudes of boaters.
- (2) Improve the safety of boats and their associated equipment.
- (3) Improve the physical and operational boating environment.
- (4) Improve Intermodal and Interagency cooperation, coordination and assistance.

## **U. S. COAST GUARD AUXILIARY**

The Coast Guard Auxiliary was established by Congress as a civilian volunteer, non-military organization, to promote safety in recreational boating in the United States. It is comprised of approximately 35,000 members who are experienced boaters, amateur radio operators, or licensed aircraft pilots. Auxiliarists take pride in the fact that they are known for the promotion of safe boating by setting a good example. Auxiliarists' boats must be equipped and maintained to high standards of safety which exceed the requirements of federal law for recreational motorboats. To accomplish its mission the Auxiliary carries out three basic programs: (1) Courtesy Marine Examinations (CME), (2) Public Education and (3) Operations.

Courtesy Marine Examination (CME). Specially-trained members of the Auxiliary are authorized to conduct Courtesy Marine Examinations of recreational boats upon the request and consent of the owners or operators. This is a check of the boat's safety-related equipment covering both the requirements of federal and state law and certain additional criteria for safety which have been adopted by the Auxiliary. Boats meeting these criteria are awarded the respected Auxiliary CME decal "Seal of Safety." If a boat does not pass the examination, the owner is advised of the deficiencies, but no report is made to any law enforcement official. This examination is in effect a form of boater education - a one-on-one exchange of boating safety information.

Public Education. The Auxiliary offers the public an array of boating safety courses, each tailored to a specific need. There are courses for both sailing and power boating - novice and expert. Courses are taught by experienced Auxiliarists using slides, movies, and demonstrations. The multi-lesson "Sailing and Seamanship" and the "Boating Skills and Seamanship" courses cover basic knowledge of Aids to Navigation, Rules of the Road, Boat Handling, Legal Requirements, Marine Engines, Marlinspike Seamanship, Communications, Weather, Locks and Dams, and more. Boaters are also offered a multi-lesson "Advanced Coastal Navigation" course. Youngsters can enjoy the "Water'N Kids" coloring book presentation.

Operations. To assist the U. S. Coast Guard, members of the Auxiliary perform search and rescue missions, patrol regattas and marine events, and add a large measure of safety to the nation's waterways by their safety patrols. These Auxiliary operations are often performed in conjunction with regular Coast Guard units.

The Coast Guard Auxiliary reports the following achievements in calendar year 1993:

<b>Persons enrolled in public safe boating courses .....</b>	<b>356,810</b>
<b>Courtesy Marine Examinations conducted .....</b>	<b>267,791</b>
<b>Safety patrols .....</b>	<b>33,789</b>
<b>Support missions for Coast Guard .....</b>	<b>49,485</b>
<b>Assists to the public .....</b>	<b>8,186</b>
<b>Regatta patrols .....</b>	<b>3,277</b>
<b>Persons assisted .....</b>	<b>25,163</b>
<b>Lives saved .....</b>	<b>457</b>
<b>Value of property saved/assisted .....</b>	<b>\$218,568,000</b>

Membership. Men and women interested in the these programs are encouraged to apply for membership in the Auxiliary. For further information please contact the nearest Coast Guard or Auxiliary unit or write to Commandant (G-NAB-1), U. S. Coast Guard Headquarters, Washington, D. C. 20593-0001, or call (800) 368-5647.

## **BOATING SAFETY EDUCATION**

An educated boater is a safer boater. A recreational boater who knows the following will BE SAFE: different Boats have unique characteristics; proper use of the Equipment on board; the care and use of Safety equipment; the effects of Alcohol and other stressors; procedures for First aid and emergencies, and the boating Environment. BE SAFE and boaters will be able to avoid hazards, deal with emergency situations, and generally have a more enjoyable boating experience.

In order that the public is more informed, the Coast Guard supports a national program to promote local boating education programs, safety awareness campaigns, and boat operator training. The Boating Education Branch serves as a focal point for these activities by working with government agencies at the International, Federal, State and local levels as well as with the nonprofit agencies that provide and promote safe boating programs for the public.

The Coast Guard works with the member organizations of the National Safe Boating Council which support the National Boating Education Seminar and the National Safe Boating Campaign. Schools, civic groups, and local boating organizations are encouraged to contact Coast Guard District Boating Safety Offices, the Coast Guard Auxiliary, and their State Boating Education Coordinator for assistance in planning and organizing a boating safety presentation or program. Individuals seeking safety information should call the Boating Safety Hotline at (800) 368-5647. The Boating Education Branch can also be contacted by writing to: Commandant (G-NAB-3), U.S. Coast Guard, 2100 Second Street SW, Washington, DC 20593-0001 or by calling: (202) 267-0992.

## **STATE AFFAIRS**

The State Affairs Branch serves as the liaison between the Coast Guard, the States, and other Federal agencies with jurisdiction over recreational boating. This encourages greater uniformity in boating laws and enforcement, and assistance in developing and administering boating safety efforts. The principal responsibility of the State Affairs Branch is to administer the Federal Financial Assistance Program that provides support to the State Recreational Boating Safety (RBS) Programs. Motorboat fuel tax dollars from

**FISCAL YEAR 1993 ALLOCATIONS  
STATE RECREATIONAL BOATING SAFETY PROGRAM  
(AQUATIC RESOURICES TRUST FUND)**

STATE	FY 1993 ALLOCATION	% OF ALLOCATION	STATE	FY 1993 ALLOCATION	% OF ALLOCATION
ALABAMA .....	\$723,431 .....	2.0%	NEW HAMPSHIRE .....	\$383,883 .....	1.1%
ARIZONA .....	\$564,268 .....	1.6%	NEW JERSEY .....	\$1,181,529 .....	3.3%
ARKANSAS .....	\$421,446 .....	1.2%	NEW MEXICO .....	\$335,440 .....	0.9%
CALIFORNIA .....	\$1,993,392 .....	5.5%	NEW YORK .....	\$1,278,825 .....	3.5%
COLORADO .....	\$345,279 .....	1.0%	NORTH CAROLINA .....	\$650,669 .....	1.8%
CONNECTICUT .....	516,468 .....	1.4%	NORTH DAKOTA .....	\$279,903 .....	0.8%
DELAWARE .....	\$335,648 .....	0.9%	OHIO .....	\$1,262,951 .....	3.5%
DIS OF COLUMBIA .....	\$323,078 .....	0.9%	OKLAHOMA .....	\$566,872 .....	1.6%
FLORIDA .....	\$3,003,657 .....	8.3%	OREGON .....	\$777,728 .....	2.1%
GEORGIA .....	\$784,136 .....	2.2%	PENNSYLVANIA .....	\$879,605 .....	2.4%
HAWAII .....	\$430,157 .....	1.2%	RHODE ISLAND .....	\$310,359 .....	0.9%
IDAHO .....	\$363,309 .....	1.0%	SOUTH CAROLINA .....	\$785,107 .....	2.2%
ILLINOIS .....	\$637,064 .....	1.8%	SOUTH DAKOTA .....	\$267,575 .....	0.7%
INDIANA .....	\$510,137 .....	1.4%	TENNESSEE .....	\$699,589 .....	1.9%
IOWA .....	\$465,703 .....	1.3%	TEXAS .....	\$1,487,094 .....	4.1%
KANSAS .....	\$344,539 .....	0.9%	UTAH .....	\$406,356 .....	1.1%
KENTUCKY .....	\$538,044 .....	1.5%	VERMONT .....	\$300,190 .....	0.8%
LOUISIANA .....	\$583,404 .....	1.6%	VIRGINIA .....	\$517,943 .....	1.4%
MAINE .....	\$372,037 .....	1.0%	WASHINGTON .....	\$574,878 .....	1.6%
MARYLAND .....	\$1,322,497 .....	3.6%	WEST VIRGINIA .....	\$290,109 .....	0.8%
MASSACHUSETTS .....	\$587,278 .....	1.6%	WISCONSIN .....	\$1,014,195 .....	2.8%
MICHIGAN .....	\$1,399,443 .....	3.9%	WYOMING .....	\$254,937 .....	0.7%
MINNESOTA .....	\$1,191,072 .....	3.3%	AMERICAN SAMOA .....	\$220,270 .....	0.6%
MISSISSIPPI .....	\$982,902 .....	2.7%	GUAM .....	\$222,473 .....	0.6%
MISSOURI .....	\$814,692 .....	2.2%	NORTHERN MARIANAS .....	\$221,221 .....	0.6%
MONTANA .....	\$288,376 .....	0.8%	PUERTO RICO .....	\$360,717 .....	1.0%
NEBRASKA .....	\$296,593 .....	0.8%	VIRGIN ISLANDS .....	\$238,189 .....	0.7%
NEVADA .....	\$426,840 .....	1.2%			
				\$36,333,496 .....	100.0%

the Aquatic Resources Trust Fund are allocated to the States to assist their boating safety efforts. This includes the costs of personnel, facilities, equipment, training, education, public access sites, inspections and investigations, search and rescue, aids to navigation, and vessel numbering/titling systems. For Fiscal Year 1993, over \$36 million was allocated to the States for their RBS Programs. This Branch is also responsible for ensuring that the Vessel Identification System (VIS) meets all Federal and State operational requirements; and for providing regulatory assistance, State representation and liaison support for the development and implementation of the VIS.

Highlights of the accomplishments of the Branch during calendar year 1993 include the following: (1) Initiated a committee of Federal and State representatives to improve the coordination and uniformity of boating laws and boating safety efforts; (2) Provided technical assistance in boating safety issues in working with the National Association of State Boating Law Administrators, the American League of Anglers and Boaters, and other boating safety interest organizations and; (3) Provided technical guidance and regulatory assistance for the development of the Vessel Identification System (VIS).



The State Affairs Branch can be contacted by writing to: Commandant (G-NAB-4), U.S. Coast Guard, 2100 2nd Street, SW, Washington, DC 20593-0001 or by calling: (202) 267-0857.

## **CONSUMER INFORMATION & ASSISTANCE**

The Consumer Affairs and Analysis Branch provides a central point of contact at Coast Guard Headquarters where users of Coast Guard services can go with questions or complaints concerning Coast Guard programs and policies. Although situated to deal primarily with the Coast Guards's Recreational Boating Safety Program, the staff will assist consumers who want information or who need help in other public-oriented Coast Guard programs (e.g. vessel documentation, commercial vessel operator licenses, aids to navigation services, drawbridge operations, water pollution, search and rescue services, and vessel boardings for law enforcement purposes).

The Consumer Affairs and Analysis Branch produces and distributes information on Coast Guard activities and policies through press releases, media articles, a consumer column in the Boating Safety Circular, and a series of Coast Guard Consumer Fact Sheets. The Fact Sheets cover specific topics of current interest to consumers (e.g. Pros & Cons of Documenting a Boat, Marine Sanitation Devices on Boats, Sources of Boating Safety Education, etc.). Single copies of the Boating Safety Circular and the Fact Sheets are available at no charge.

### **Boating Safety Hotline**

The Branch also operates a toll-free Boating Safety Hotline (telephone: (800) 368-5647). The Hotline is designed to: (1) Tell boat owners and buyers whether a particular boat model has been involved in a safety recall (in some recalls, manufacturers are only able to notify a small percentage of current owners); (2) Take reports from owners concerning safety problems they are experiencing in their boats to determine if a safety recall is warranted; (3) Take feedback or comments from recreational boaters concerning Coast Guard law enforcement boardings; and (4) Answer questions on boating safety. Located at Coast Guard Headquarters in Washington, DC, the Hotline is in operation Monday through Friday from 8:00 a.m. to 4:00 p.m. eastern time.

In 1993, over 118,000 people called the Hotline. Hotline customer service representatives (CSRs) answer a wide variety of boating safety questions. The following are a sample of questions answered by the CSRs: (1) How to locate a boating safety course; (2) what safety equipment is required; (3) where to get a marine radio license or a commercial operator's license; (4) how to join the Coast Guard Auxiliary; (5) whether a particular boat is involved in a boating safety recall; and (6) how to report a possible safety defect in a boat. The Hotline CSRs frequently follow up these contacts by sending callers literature related to the inquiries. Nearly every subject vital to boating safety is covered in the 25 Consumer Fact Sheets and educational pamphlets available through the Hotline. In 1993, over 178,000 pieces of educational literature were mailed to consumers in response to Hotline calls.

### **U.S. Recreational Vessel Fee Program**

One of the provisions of the Omnibus Budget Reconciliation Act of 1990 required owners of certain recreational vessels operated on the navigable waters of the United States to pay an annual Recreational Vessel Fee (RVF). Effective October 1, 1994, the RVF program is terminated in its entirety. Questions about the RVF program may be directed to the Coast Guard Boating Safety Hotline, (800) 368-5647.

## Other Information Services for the Public

Requests for Boating Accident Statistics from the BAR Database: The Coast Guard receives numerous requests from the public for specific recreational boating accident statistics that are not presented in this publication, but are available from the Boating Accident Report (BAR) database. The BAR database contains statistical data derived from Boating Accident Reports for the years 1969-1993. Based on your request, we determine if the information you need is available from the database. If the information is available, we query the database and generate a report that answers your request.

The following is a sample of the type of data available from the BAR database:

- |  |  |
|--|--|
| (1) Age of Operator                        | (12) Type of Body of Water                       |
| (2) Age of Victim                          | (13) State and County where Accident Occurred    |
| (3) Operators Experience                   | (14) Weather                                     |
| (4) Formal Instruction of the Operator     | (15) Water Conditions                            |
| (5) Number of Persons on Board             | (16) Personal Flotation Device (PFD) information |
| (6) Boat Manufacturers Identification Code | (17) Operation At Time of Accident               |
| (7) Type of Boat                           | (18) Time Accident Occurred                      |
| (8) Hull Material                          | (19) Type of Accident                            |
| (9) Type of Propulsion                     | (20) Cause of Accident                           |
| (10) Boat Length                           | (21) Number of Drowning/Non-Drowning Victims     |
| (11) Month, Day, Year of Accident          | (22) Number of Injuries                          |

Copies of State Boating Accident Investigation Reports: Copies of all Boating Accident and Investigation Reports (BAIRs) on file with State Boating Law Administrators are forwarded to the Consumer Affairs and Analysis Branch at Coast Guard Headquarters. Interested persons may obtain copies of individual BAIRs subject to the following limitations:

(1) *Treated as Freedom of Information Act Request (FOIA):* All requests for copies of BAIRs are handled as requests for Government records under FOIA. This ensures that record material that should be protected (not released to the public) is protected, and that Government records which should otherwise be made available to the public are released when requested. It also provides a uniform basis for charging the public for the time spent by Government personnel in searching for and copying the records (BAIRs). Costs for fulfilling BAIR requests will depend largely on the number of BAIR records requested. Persons asking for copies of BAIRs will be made aware of the estimated search and copying fees before the request is fulfilled.

(2) *State Restrictions on Release:* Not all States permit the release of their BAIRs to the public. Federal statutes (46 USC 6101(b)) require the Coast Guard to likewise comply with the restrictions a State may impose on the release of its BAIRs. The States that currently prohibit release of BAIRs to the public are: Alabama, Arizona, California, Colorado, Delaware, District of Columbia, Florida, Hawaii, Idaho, Illinois, Maryland, Massachusetts, Mississippi, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, and Wisconsin. Requests for copies of BAIRs from these States will be denied under the FOIA provisions of 5 USC 552 (b)(3).

Copies of Boating Accident Report Database: Each year, the Coast Guard enters key data from the BAIRs submitted by the States into a boating accident report computer database. This data forms the basis for the statistics produced in this publication. Copies of the complete database are available on computer DAT tape at a cost of \$96.99 each. The

tape is designed to be played only on a UNIX platform. Currently we do not have the capability to provide tape in a MS-DOS compatible format. The DAT tape may be purchased in tar or cpio format only. The database contains data abstracted from all recreational boating accidents reported to the Coast Guard beginning with the year 1969. However, requests may be made for a particular year or years. The data is provided in ASCII format and is designed to be loaded into a relational database.

The Consumer Affairs and Analysis Branch can be contacted on the Boating Safety Hotline (telephone: (800) 368-5647; in the Washington, D.C. area, 267-0780; fax (202) 267-4285) or by writing to: Commandant (G-NAB-5), U.S. Coast Guard, 2100 2nd Street, SW, Washington, DC 20593-0001.

## **THE NATIONAL NONPROFIT PUBLIC SERVICE ORGANIZATION GRANT PROGRAM**

The Federal statutes in 46 USC 13103(c) (formerly Section 27 of the Federal Boat Safety Act of 1971), authorize the Coast Guard to award grants to national nonprofit public service organizations each year to fund boating safety projects and activities that will have national impact and benefit. Eighteen grants, totalling \$1,862,000, were awarded in Fiscal Year (FY) 1993.

Interested persons can get more information on how to apply for a grant by contacting the Consumer Affairs and Analysis Branch at (202) 267-0954. Please ask for the "Guide to the National Nonprofit Public Service Organization Grant Program."

The following is a summary of the FY 93 grants:

**American Boat and Yacht Council:** To provide reimbursement for public member committee expenses so skilled individuals in boating safety standards have an opportunity to participate in standards development meetings.

**American Boat and Yacht Council:** To provide information for improving safety standards involving watercraft motions, falls overboard, and occupant protection.

**American Camping Association (ACA):** To develop boating safety skills programs for instructors of organized youth camps which include the establishment of performance criteria for instructors.

**American Camping Association (ACA):** To develop a "Train the Trainers" program for paddlecraft safety instruction and certification.

**Council of State Governments:** To improve the efficiency of the Coast Guard Boating Accident Report (BAR) database by developing ways to transmit BAR data electronically.

**Council of State Governments:** To develop a reference guide of State boating laws and safety policies which will assist State boating law officials in improving boating programs.

**JSI Research and Training Institute:** To perform a study to determine whether a relationship exists between training and safe boating practices. This study will identify boat operators at greatest risk of injury and death due to unsafe boating behaviors, and also evaluate the effectiveness of current Coast Guard boating safety training programs

in reducing fatalities and injuries.

**JSI Research and Training Institute:** To measure the knowledge, attitudes, and compliance of boaters in obeying Operating Under the Influence (OUI) laws and recommend programs for improving compliance.

**Marina Operators Association of America:** To develop and distribute a poster to increase boater awareness of proper fueling procedures for recreational boats.

**Recreational Boating Accident Register (R-BAR):** To provide the U.S. Coast Guard with additional information on the nature, frequency, and types recreational boating accidents on the basis of boating accident statistics from insurers of recreational boats.

**National Association for Equal Opportunity in Higher Education (NAFEO):** To increase recreational boating participation and safety awareness among minorities by establishing boating safety education programs for students and communities of Historically Black Colleges and Universities (HBCU).

**National Association of State Boating Law Administrators (NASBLA):** To provide administrative, committee travel, and newsletter funding for NASBLA activities in support of cooperative State boating safety programs.

**National Recreation and Park Association:** To develop and provide a model boating safety student manual for each State.

**National Safe Boating Council:** To support National Safe Boating Week and The National Boating Education Seminar, two programs which are critical to promoting and teaching recreational boating safety.

**National Water Safety Congress:** To develop a multiple use waterway management guide.

**Underwriters Laboratories, Inc.:** To fund basic and intermediate boating accident investigation seminars for boating law officials and investigators to improve proficiency in understanding the causes of recreational boating accidents and thereby obtain improved accident data.

**Underwriters Laboratories, Inc.:** To develop a non-destructive method for determining whether a recreational boat complies with U.S. Coast Guard Safe Loading, Safe Powering, and Flotation Standards.

**United Safe Boating Institute (USBI):** To fund the printing and distribution of a boating safety brochure, "Fishermen, Hunters and Campers, Tips For Safe Boating" to reach sportsmen and remind them that they are recreational boaters and need to follow boating safety instruction at all times while boating.

## **RECREATIONAL BOATING PRODUCT ASSURANCE**

The Recreational Boating Product Assurance Branch ensures that boats sold to the public meet Coast Guard regulations. Monitoring activities consist of testing boats purchased on the open market for compliance with applicable Coast Guard safety standards and regulations, inspecting boats at boat shows, and investigating consumer complaints. Manufacturers are required by law to correct any boats found to be in violation of the regulations.

Boats, inboard engines, outboards, and sterndrive units that contain defects which create a substantial risk of personal injury to the public are required to be corrected at the boat manufacturer's expense. Most of the defects the Coast Guard investigates are reported voluntarily by the product's manufacturer. Consumer complaints are also investigated and can result in an order for a manufacturer to repair a defect. Ordinary warranty problems are not covered by these rules.

Highlights of the accomplishments performed by the Recreational Boating Product Assurance Branch during calendar year 1993 include the following: tested more than 80 boats for compliance with Coast Guard safety standards and regulations; supported the Marine Safety Office factory visit program which expended over 11,000 hours inspecting boats at 2,244 recreational boat manufacturers' facilities; investigated 33 consumer complaints concerning the safety of recreational boats; maintained a database that includes information covering 4,000 recreational boat manufacturers, Federal regulations and safety standards violations, recall campaigns, and consumer complaints; and monitored 28 recall campaigns for defects in boats which created a substantial risk of personal injury to the public.

The Recreational Boating Product Assurance Branch can be contacted by writing to: Commandant (G-NAB-6), U.S. Coast Guard, 2100 2nd Street, SW, Washington, DC 20593-0001 or by calling: (202) 267-0984.

## GLOSSARY

**At anchor** - Held in place in the water by an anchor; includes "moored" to a buoy or anchored vessel and "dragging anchor".

**Cabin motorboat** - Motorboats with a cabin which can be completely closed by means of doors or hatches. Large motorboats with cabins, even though referred to as yachts, are considered to be cabin motorboats.

**Capsizing** - Overturning of a vessel. The bottom must become uppermost, except in the case of a sailboat, which lies on its side.

**Collision with another vessel** - Any striking together of two or more vessels, regardless of operation at time of the accident, is a collision. (Also includes colliding with the tow of another vessel, regardless of the nature of the tow, i.e., surfboard, ski ropes, skier, tow line, etc.)

**Collision with fixed object** - The striking of any fixed object, above or below the surface of the water.

**Collision with floating object** - Collision with any waterborne object above or below the surface that is free to move with the tide, current, or wind, except another vessel.

**Cruising** - Proceeding normally, unrestricted, with an absence of drastic rudder or engine changes.

**Documented yacht** - A vessel of five or more net tons owned by a citizen of the United States and used exclusively for pleasure with a valid marine document issued by the Coast Guard. Documented vessels are not numbered.

**Drifting** - Underway, but proceeding over the bottom without use of engines, oars or sails; being carried along only by the tide, current, or wind.

**Fallen Skier** - A person who has fallen off their waterskis.

**Fault of operator** - Speeding; overloading; improper loading, not properly seating occupants of boat; no proper lookout; carelessness; failure to heed weather warnings; operating in a congested area; not observing the Rules of the Road; unsafe fueling practices; lack of experience; ignorance of aids to navigation; lack of caution in an unfamiliar area of operation; improper installation or maintenance of hull, machinery or equipment; poor judgment; recklessness; overpowering the boat; panic; proceeding in an unseaworthy craft; operating a motorboat near persons in the water; starting engine with clutch engaged or throttle advanced; irresponsible boat handling such as quick, sharp turns.

**Fiberglass (plastic) hull** - Hulls of fiber reinforced plastic. The laminate consists of two basic components, the reinforcing material (glass filaments) and the plastic or resin in which it is embedded.

**Fire/explosion (fuel)** - Accidental combustion of vessel fuel, liquids, including their vapors, or other substances, such as wood or coal.

**Fire/explosion (other)** - Accidental burning or explosion of any material on board except vessel fuels or their vapors.

**Flooding** - Filling with water, regardless of method of ingress, but retaining sufficient buoyancy to remain on the surface.

**Fueling** - Any stage of the fueling operation; primarily concerned with introduction of explosive or combustible vapors or liquids on board.

**Grounding** - Running aground of a vessel, striking or pounding on rocks, reefs, or shoals; stranding.

**Improper loading** - Loading, including weight shifting, of the vessel causing instability, limited maneuverability, or dangerously reduced freeboard.

**Improper lookout** - No proper watch; the failure of the operator to perceive danger because no one was serving as lookout, or the person so serving failed in that regard.

**Inboard-outboard** - Also referred to as inboard/outdrive. Regarded as inboard because the power unit is located inside the boat.

**Maneuvering** - Changing of course, speed, or similar boat handling action during which a high degree of alertness is required or the boat is imperiled because of the operation, i.e. docking, mooring, undocking, etc.

**Motorboat** - Any vessel equipped with propulsion machinery, not more than sixty-five feet in length.

**Motor vessel** - Any vessel equipped with propulsion machinery (other than steam) more than 65 feet long.

**Numbered vessel** - An undocumented vessel numbered by a state with an approved numbering system or by the Coast Guard under Chapter 123 of title 46, U.S.C.

**Open Motorboat** - Craft of open construction specifically built for operating with a motor, including boats canopied or fitted with temporary partial shelters.

**Outboard** - An engine not permanently affixed to the structure of the craft, regardless of the method or location used to mount the engine, e.g., motor wells, "kicker pits", motor pockets, etc.

**Overloading** - Excessive loading of the vessel causing instability, limited maneuverability, dangerously reduced freeboard, etc.

**Personal Watercraft** - Craft less than 13 feet in length designed to be operated by a person or persons sitting, standing or kneeling on the craft rather than within the confines of a hull.

**Rules of the Road** - Statutory and regulatory rules governing navigation of vessels.

**Sailboat or auxiliary sailboat** - Craft intended to be propelled primarily by sail, regardless of size or type.

**Sinking** - Losing enough buoyancy to settle below the surface of the water.

**Speeding** - Operating at a speed, possibly below the posted limit, above that which a reasonable and prudent person would operate under the circumstances.

**Steel hull** - Hulls of sheet steel or steel alloy, not those with steel ribs and wood, canvas, or plastic hull coverings.

**Struck by boat or propeller** - Striking of a victim who is outside of the boat, but not necessarily a swimmer.

**Swamping** - Filling with water, particularly over the side, but retaining sufficient buoyancy to remain on the surface.

**Towing** - Engaged in towing any vessel or object, other than a person.

**Wood hull** - Hulls of plywood, molded plywood, wood planking, or any other wood fiber in its natural consistency, including those of wooden construction that have been "sheathed" with fiberglass or sheet metal.

## BOATING SAFETY REGULATIONS

The following is a chronological summary of the regulations and amendments the Coast Guard has issued under the authority of Title 46, of the United States Code:

1. Especially Hazardous Conditions, 33 CFR 177. Describes specific unsafe boating conditions in which use of a boat could be especially dangerous. Issued Jul 7, 1972; effective Aug 7, 1972.
2. Defect Notification, 33 CFR 179. Requires manufacturers to notify consumers of safety defects in boats and associated equipment. Issued Aug 4, 1972; effective Sept 3, 1972.
3. Manufacturer Requirements, 33 CFR 181. Requires certification of compliance for manufacturers of recreational boats subject to federal standards. Also requires manufacturers to assign hull identification numbers to their boats. Issued Aug 4, 1972; effective Nov 1, 1972.
4. Boat and Associated Equipment Standards, 33 CFR 183. Requires basic flotation and sets load and horsepower capacities for boats under twenty feet in length. Issued Aug 4, 1972; effective Nov 1, 1972, except for the flotation standard, effective Aug 1, 1973.
5. Vessel Numbering and Accident Reporting, 33 CFR 173 & 174. Establishes uniform system for registering and numbering boats with propulsion machinery. Establishes procedures for reporting boating accidents. Issued Oct 7, 1972; effective Jul 1, 1973.
6. Personal Flotation Devices, 33 CFR 175. Establishes new requirements for carriage of personal flotation devices (PFDs). Classifies PFDs into types I, II, III, IV, and V to indicate the general level of performance. Issued Mar 28, 1973; effective Oct 1, 1973.
7. Hazardous Bars, 33 CFR 177. Defines unsafe boating conditions which can exist in certain coastal bars and inlets in Oregon and Washington. Issued Jan 23, 1974; effective Feb 22, 1974.
8. Manifestly Unsafe Voyage, 33 CFR 177. Defines unsafe conditions that can exist for recreational boats in prolonged open-sea voyages. Issued Mar 18, 1974; effective Apr 17, 1974.
9. Amendment to Inboard Safe Loading Standard, 33 CFR 183. Relaxes the safe loading standard for inboard boats, particularly as it applies to high performance boats. Issued Aug 13, 1975; effective Feb 9, 1976.
10. Amendment to Safe Loading and Safe Powering Standards, 33 CFR 183. Clarifies terms in the standards that had been misunderstood, e.g., "level", "beam", "length". Issued Sept 23, 1975; effective Mar 23, 1976.
11. Amendment to Flotation Standard, 33 CFR 183. Amends the table used to calculate the weight of outboard engines. Adds a new category of outboard engines over 150 HP. Issued Mar 18, 1976; effective Sept 15, 1976.
12. Amendment to Coast Guard Procedural Rules, 33 CFR Part 1. Describes the procedure followed by the Coast Guard in issuing written warnings to boat operators for minor violations of boating safety laws or regulations. Issued April 29, 1976; effective April 29, 1976.
13. Amendment to Numbering Regulations, 33 CFR 173 and 174. Updates information in the numbering regulations. Primarily, notes that the District of Columbia and Guam have approved numbering systems. Issued Jun 10, 1976; effective Jun 10, 1976.
14. Amendment to U.S. Customs Service Regulations, 19 CFR 12. (A joint Treasury-Coast Guard regulation). Ensures that imported boats and associated equipment which are not in compliance with safety standards and regulations are brought into compliance before being used or offered for sale. Issued June 10, 1976; effective July 12, 1976.



15. Amendment to PFD Regulations, 33 CFR 175. Revokes the provision which permits a person using a white water canoe or kayak to use a non-approved life saving device because approved PFDs that are suitable for white water use became available. Issued Jun 14, 1976; effective Oct 1, 1977.

16. Amendment to Safe Loading and Flotation Standards, 33 CFR 183. Clarifies the meaning of certain terms in the standards, e.g. "boat weight" and "permanent appurtenances". Excepts submersible boats, surface effect vehicles, and amphibious vehicles from the flotation standard. Issued Jan 13, 1977; effective Jul 22, 1977.

17. Amendment to Safe Loading Requirements for Low- and Non-Powered Boats, 33 CFR 183. Establishes a more reasonable formula for calculating the safe loading capacity of low-powered and non-powered boats, e.g. dinghies, dories, rowboats. Issued Jan 13, 1977; effective Jul 22, 1977.

18. Fuel and Electrical Standards for Boats, 33 CFR 183. Establishes fuel and electrical standards for the manufacture of boats using inboard gasoline engines for propulsion or electrical power in order to prevent fires and explosions. Issued Jan 31, 1977; effective dates of the requirements vary from Aug 1, 1977 to Aug 1, 1978.

19. Flotation Standards for Boats, 33 CFR 183. Establishes level flotation standards on rowboats and outboard boats less than 20 feet in length, the boats most often involved in swamping and capsizing accidents, so that the boat will float level when swamped and provide a safe platform until rescue. Issued Apr 18, 1977; effective Aug 1, 1978.

20. Amendment to Fuel and Electrical Standards for Boats, 33 CFR 183. Revises several unnecessary requirements. Issued Jul 14, 1977; effective Aug 1, 1977.

21. Personal Flotation Device Pamphlet, 33 CFR 181. Requires manufacturers of personal flotation devices (PFD) to provide with each PFD a pamphlet containing information on the selection, care, and proper use of PFDs. Issued Mar 9, 1977; effective Sept 1, 1978.

22. U. S. - Canadian Agreement on Assignment of Hull Identification Numbers, 33 CFR 181. Advises of agreement between the U. S. and Canadian Coast Guards to coordinate assignment of Manufacturer ID codes, allowing a manufacturer to use the same hull identification number system when marketing boats in U. S. and Canada. Issued Apr 10, 1978; effective Apr 10, 1978.

23. Amendment to Numbering Regulations, 33 CFR 173. Permits owners of leased or chartered vessels to retain the certificate of number when the rental is for less than seven days. Issued Apr 27, 1978; effective Apr 27, 1978.

24. Amendment to Fuel Systems Standard, 33 CFR 183. Delayed effective date of fuel pump and carburetor requirements from Aug 1, 1978 to Febr 1, 1979 to give industry more time to comply with new regulations. Issued Sept 17, 1978; effective Sept 17, 1978.

25. Amendment to Electrical Systems Standard, 33 CFR 183. Delayed the effective date of ignition protection requirements from August 1, 1978 to Feb 1, 1979 to give industry more time to comply with the new regulations. Issued Sept 17, 1978; effective Sept 17, 1978.

26. Amendment to Flotation Standard, 33 CFR 183. Allows use of flotation material that is not resistant to gasoline or other solvents if it is installed in a part of the boat where it will not come in contact with these liquids or vapors. Establishes performance specifications for flotation material to help manufacturers determine if their flotation material will meet the standard. Issued Dec 4, 1978; effective Aug 1, 1979.

27. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 173 & 174. Clarifies circumstances of a reportable injury. Extends the time limit for reporting accidents that don't involve death or personal injury from 5 to 10 days. Increases the

maximum property damage in a non-reportable accident from \$100 to \$200. Clarifies that the rulemaking authority must determine the causes of reported accidents. Issued Jan 25, 1979; effective Feb 26, 1979.

28. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 174. Leaves to the states the manner in which an invalid number sticker must be removed, conditions under which the number and validation sticker must be removed; and content of the report required of the operator in case of death or disappearance. Issued Jul 19, 1979; effective Aug 20, 1979.

29. Amendment to Electrical System Standard, 33 CFR 183. Permits circuit breakers located up to 7" away from the power source, or up to 40 inches away if the conductor is additionally protected by a sheath or enclosed box, if it is physically impossible to locate the circuit breaker at the power source. Issued Nov 5, 1979; effective Nov 5, 1979.

30. Operator Requirement for Visual Distress Signals, 33 CFR 175. Requires operators of boats used on coastal waters to carry approved (for both day and night) visual distress signals, e.g. orange smokes, orange distress flags, flares, electric distress lights. Exempts boats used in approved regattas, open sailboats less than 26 feet, rowboats, canoes, and other boats under 16 feet in length during daylight hours. Issued Dec 17, 1979; effective Jan 1, 1981.

31. Ventilation Standard for Boats, 33 CFR 175 and 183. Requires closed compartments with gas engines, including generators, on boats built on or after August 1, 1980 to be ventilated by a blower system of a certain standard. Requires engine compartments, and in certain circumstances fuel tank compartments, to have natural ventilation. Requires operators of such boats to keep certain parts of the blower system operable. Issued Dec 17, 1979; effective Aug 1, 1980.

32. Amendment to Capacity Information Label on Boats, 33 CFR 183. Requires a bright yellow background on the label. Requires the capacity to be shown in number of persons as well as pounds on boats less than 20 feet in length. Adds a method to determine the number of persons a boat can safely hold. Issued Jan 10, 1980; effective Aug 1, 1980.

33. Amendment to Visual Distress Signal Regulations to Accept Hand-Held Red Flares, 33 CFR 175. Adds hand-held red flares to the lists of visual distress signals (see item 30). Issued Jul 3, 1980; effective Jan 1, 1981.

34. Start-in-Gear Protection Devices on Outboard Motors, 33 CFR 181 & 183. Requires manufacturers of an outboard motor with 115 lbs. or more of static thrust (7-9 hp) to provide built-in start-in-gear protection in the outboard motor or a label stating that the outboard motor must be installed with a compatible remote control which contains the start-in-gear protection. All manufacturers of remote starting controls must affix a label to their controls telling whether or not the control system has start-in-gear protection. Dealers installing an outboard motor with remote controls must insure that start-in-gear protection is provided. Issued Jan 15, 1981; effective Aug 1, 1982.

35. Application for Certificate of Numbers, Change in Required Contents, 33 CFR 174. No longer requires states to obtain information on date of birth and citizenship of vessel owners applying for Certificates of Number. Issued Feb 25, 1982; effective Mar 29, 1982.

36. Amendment to Visual Distress Signal Requirements, 33 CFR 175. Amendment clarifies the language concerning the carriage requirements. A revised table shows the approval numbers of acceptable pyrotechnic signal devices. A grandfather clause was inserted to allow pyrotechnic signal launchers manufactured before 1 Jan 1981 to be continued to be used in launching of approved signals. Issued Jun 7, 1982; Effective Jun 7, 1982.

37. Amendment to Correction of Especially Hazardous Conditions Aboard Boats, 33 CFR 177. Amendment is editorial in nature and reflects changes made in other Statutes cited

by the "Hazardous Conditions" regulations. These changes include reference to the Inland Navigational Rules Act of 1980. Issued Aug 23, 1982; Effective Aug 23, 1982.

38. Amendment to Boat Hull Identification Numbers, 33 CFR 181. Amendment makes alteration or removal of the HIN more difficult; requires the placement of an additional HIN which will enable identification of the boat even if primary HIN is altered or removed; requires a single HIN format; and makes the removal or alteration of a HIN a violation of federal law. Issued Sept 9, 1983; Effective Aug 1, 1984.

39. Amendment to Electrical and Fuel System Standards, 33 CFR 183. Amendment repeals and revises standards determined to be no longer necessary. These changes were made after a review effort to lessen regulatory burden upon recreational boat manufacturers, while insuring that an adequate level of safety is maintained. The amendment makes numerous changes to regulations affecting batteries, conductors, overcurrent protection, fuel tanks, fuel stop valves, hose clamps, seals and gaskets, hose identification, and anti-siphon protection. Issued Dec 15, 1983. Effective Jun 11, 1984.

40. Amendment to Visual Distress Signal Requirements, 33 CFR 175. Amendment revises definition of "coastal waters" where visual distress signals are required to be carried on vessels. Issued Feb 27, 1984. Effective Aug 27, 1984.

41. Amendment to Certification, Safe Loading and Flotation Standards, 33 CFR 181 & 183. Amendment revises or removes sections of the regulations which have been determined to be no longer necessary or to have limited value in improving boating safety. Weights of outboard motors, which are used to determine safe loading capacities, are updated. The amount of flotation material required to be installed in boats is also revised. Issued October 5, 1984. Effective April 3, 1985.

42. Amendment to Certification, Safe Loading and Flotation Standards, 33 CFR 181 & 183. Amendment clarifies the intent of the regulations after the amendment issued October 5, 1984. Manufacturers of boats rating a maximum persons capacity of less than 550 pounds must not exceed the lesser calculated value obtained by performing the two tests described in §§ 83.39 & 183.41. Issued May 2, 1985. Effective May 2, 1985.

43. Amendment to Personal Flotation Devices, 46 CFR 160. This interim final rule establishes approval requirements for hybrid PFDs. Use of the approved hybrid PFDs is optional but, if carried, certain limitations apply. Issued August 22, 1985. Effective September 1, 1985 (except for §§ 160.077-25(a) & 160.077-25(e), whose effective dates will be published separately).

44. Amendment to Certification and Safe Powering Standards, 33 CFR 181 & 183. Amendment establishes a performance test as an alternative to the existing calculation method to allow higher horsepower capacities for certain high performance boats. The alternate test applies to recreational outboard boats 13 feet or less in length with remote wheel steering, a minimum 19-inch transom height or equivalent, and a capacity rating not to exceed two persons. Issued Oct 23, 1986. Effective Aug 1, 1987.

45. Amendment to Ventilation Standard, 33 CFR 183. Amendment removes the requirements for ventilation openings to face forward and for testing to show airflow. The requirements had virtually no impact on achieving necessary ventilation and their removal relieves a regulatory burden on recreational boat manufacturers. Issued Oct 23, 1986. Effective Aug 1, 1987.

46. Amendment to Fuel System Standard, 33 CFR 183. Amendment requires gasoline fuel hose installed in new recreational boats to meet the performance requirements of SAE Standard J1527DEC85 instead of SAE Standard J30C. The change responded to safety concerns about the effects of increasing levels of aromatics and alcohols in fuels on permeation rates and longevity of hose meeting SAE Standard J30C. Issued Apr 20, 1987. Effective Oct 17, 1987.

47. Operating a Vessel While Intoxicated, 33 CFR 95, 173, 174, and 177. Rule sets independent Federal standards based on an individual's behavior and blood alcohol concentration (BAC) for determining whether an individual operating a recreational vessel is intoxicated. It adopts enacted State BAC standards. It amends regulations to require specific information on the role of alcohol or drugs in reports of boating casualties. It allows Coast Guard personnel to terminate the use of a vessel when the operator is under the influence of an intoxicant to the extent that further operation of the vessel creates an unsafe condition. Penalties include a civil penalty up to \$1,000 and a criminal penalty up to \$5,000, up to one year imprisonment, or both. Issued Dec 14, 1987. Effective Jan 13, 1988.

48. Amendment to Electrical System Standard and Incorporation by Reference, 33 CFR 183. Amendment revises electrical standards for new recreational boats by incorporating Underwriters Laboratories (UL) Standard 1426 - Cables for Boats - in lieu of a general reference to independent testing laboratories that is no longer considered useful, and by deleting UL Standard 83 - Thermoplastic Insulated Wires and Cables. The change added the UL listed boat cable standard (UL 1426) which is now widely used for marine cable installed in recreational boats and made minor changes to the list of other standards incorporated by reference in Part 183, to reflect current publication dates and one address change. Issued Sept 23, 1988. Effective Mar 22, 1989.

49. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 173 & 174. Increases the minimum of property damage threshold for a reportable accident from \$200 to \$500. Allows States to set a lower property damage accident reporting threshold than the Coast Guard. Issued February 6, 1989; effective March 8, 1989.

50. Exemption from Personal Flotation Device Pamphlet Requirements, 33 CFR 181. Exempts manufacturers subscribing to Underwriters Laboratories, Inc. (UL) Listing Services for Marine Buoyant Devices, Vests and Cushions from the burden of providing two pamphlets with each PFD, one under Coast Guard requirements and one under UL Standard 1123, while the Coast Guard conducts a rulemaking to update its PFD pamphlet requirements. Issued Feb 23, 1989; effective Feb 23, 1989.

51. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 173. Corrected statutory citations and restatements of legislative text to reflect changes made in recodification of Title 46 of the United States Code. Updated the lists of issuing and reporting authorities to include additional State numbering and casualty reporting systems approved by the Coast Guard. Issued Jun 27, 1989; effective Jun 27, 1989.

52. Amendment to Personal Flotation Device Pamphlet Requirements, 33 CFR 175 & 181. Updates PFD Pamphlet Requirements by incorporating by reference the PFD pamphlet design and packaging requirements in Underwriters Laboratories, Inc. (UL) Standard for Marine Buoyant Devices (UL 1123). The rule terminated an interim exemption for PFD manufacturers (issued Feb 23, 1989) on Feb 4, 1991. The rule also revised other PFD related sections to reflect approval of special purpose Type V PFDs, and removed an obsolete exemption from PFD carriage requirements for certain kayaks and canoes, prior to Oct 1, 1977. Issued Aug 6, 1990; effective Feb 4, 1991.

53. Amendment to Backfire Flame Arrester Regulations, 46 CFR Part 25. Amends regulations to include flame arresters meeting SAE J-1928 or UL-1111 as acceptable means of backfire flame control. Issued Jul 29, 1991; effective Aug 28, 1991.

54. Amendment to Personal Flotation Device Regulations, 33 CFR 175 & 181, 46 CFR 160. Revises PFD regulations for recreational vessels under 16 feet in length to require carriage of one USCG approved wearable PFD per person aboard the vessel. The throwable type IV PFDs (cushions, rings, etc.) are not prohibited, but will no longer meet PFD carriage requirements. It exempts States from preemption to allow States to establish PFD carriage or wearing requirements different than Federal requirements

regarding children on any vessel and any person operating a canoe, kayak, sailboard, or personal watercraft. It also adds exemptions from the Federal PFD carriage requirements regarding racing canoes, sailboards, recreational submersibles, and foreign competitors using U.S. vessels. It conforms label information requirements for PFD manufacturers to the revised PFD carriage requirements. Issued August 4, 1993; effective September 3, 1993, except section 175.15(a) effective on May 1, 1995 (livery/boat rental vessels exempted from wearable PFD carriage requirements until May 1, 1996).



## **U.S. Coast Guard**

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